



Government of Bengal

**Final Report
on the Khulna Settlement
1920—1926**

by

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Final Report on the Khulna Settlement.

PART I.—THE LAND AND THE PEOPLE.

Chapter I.—Physical features.

BOUNDARIES AND AREAS.

1. **Boundaries.**—The district of Khulna is in shape a rough parallelogram lying between $21^{\circ} 38'$ and $23^{\circ} 1'$ north latitude and between $88^{\circ} 54'$ and $89^{\circ} 58'$ east longitude. It is bounded—

North by the district of Jessore,

South by the Bay of Bengal,

East by the districts of Faridpur and Bakarganj,

West by the 24-Parganas district.

The area within these boundaries is 4,675 square miles, of which 2,202½ square miles are reserved forest.

2. **Administrative divisions and areas.**—The district was formed in 1882 out of the Khulna and Bagerhat subdivisions of Jessore and the Satkhira subdivision of the 24-Parganas. Khulna was originally a subdivision of Jessore created as the first subdivision in Bengal in 1842. Its jurisdiction then extended over the present Khulna Sadar subdivision and a great part of the present Bagerhat subdivision. Subsequently in 1863 Bagerhat was constituted a subdivision of Jessore. The Satkhira subdivision of the 24-Parganas district was created in 1861 out of the Joint Magistracy of Baraset. Since the fusion of the three subdivisions into the district of Khulna in 1882, the jurisdiction of the district has undergone little change: in 1913 a few square miles in the north eastern corner of the district were transferred to Faridpur by the adoption of the then mainstream of the Madhumati as the district boundary.

The district comprises the following police stations: the areas do not include the reserved forest.

	Square miles.
<i>Satkhira</i> —	
Kalaroa	89.35
Tala	130.21
Satkhira	140.94
Debhata	67.55
Kaligunj	127.17
Shyamnagar	175.72
Asasuni	157.92
Total	888.86

	Square miles.
<i>Sadar</i> —	
Phultala	28.67
Daulatpur	34.34
Terakhada	82.64
Khulna	38.84
Baitaghata	96.61
Dumuria	177.69
Paikgacha	244.24
Dacope	110.32
Total	813.35

<i>Bagerhat</i> —	
Mollahat	95.48
Fakirhat	61.43
Bagerhat	125.49
Kachua	64.34
Rampal	194.65
Morrellgunj	169.43
Sarankhola	58.60
Total	770.27

District Total, excluding Sunderbans.	2,472.13
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Physical features and kinds of soil.

3. **Formation of the delta.**—The whole of the district is pure delta area formed by the action of Ganges water bringing down mud ground from the gneiss and limestone of the Himalayas mainly through two great channels—the Bhagirathi and the Padma. The Bhagirathi is the original southward course of the Ganges and the Padma is a later east flowing branch of it. Some time during the 16th century it appears that the main volume of Ganges water passed from the Bhagirathi to the Padma, but while the Ganges was flowing southward to the sea through the Bhagirathi and its old mouths the Saraswati, the Adiganga, and the Jamuna it threw off from its left bank a mighty silt distributing river, the “Bhairab” or “terrible”; this river flowing south eastwards became the main source from which the delta area of Khulna district was built. On the west of the district the old Jamuna and on the east of the district the new volume of Gorai water

drawn from the Padma and passing through an ancient channel, the Barasia, under the new name of Madhumati, have aided in the work.

Apart from pure deltaic action, subsidence and elevation of the land from hypogeal causes has played a considerable part in the formation of particular physical features of the district; the process is a somewhat controversial matter, and will be alluded to in more detail later. The process of delta formation which is the main cause of the present aspect of the district is somewhat as follows. When a silt laden river reaches the sea its velocity is checked by the sea's resistance and unable to carry on the heavier and coarser silt, it lets it fall directly in front of its mouth. This is the natural cause of the "bars" in front of river mouths. Checked by this obstruction, the river branches and flows each side of it in the form of two streams, and these streams which are at first mere currents flowing through the sea right and left of the river bar, soon form banks which confine the river's course between the bar and the new formed bank. The reason of the formation of the banks is that so long as the river is flowing between banks of land, no transported silt can escape it but as soon as the river becomes a current bordered by still sea water, it is possible for silt to escape the current and fall into still water at the edge of it. The silt, which so falls, gradually builds up a bank in the sea on the edge of the river current.

This results in the original river being divided into two streams, each of these streams being bordered on one side by the river bar and on the other by the bank formed as described above. Thus in the sea at the mouth of a river the current and the silt have formed land traversed by two diverging streams; each of the streams themselves carries silt and each in turn performs the same operation where their waters mingle with the sea—, and so the process goes on, building up land composed of islands bordered by streams diverging in the shape of the Greek letter from which the delta takes its name. Tidal action at the same time brings back silt on to the land so formed and helps in the work of building it up, thus producing the deltaic phenomenon that the land slopes downwards from the neighbourhood of the sea coast to the areas

situated at the extremity of tidal range. These processes account for the physical aspect of Khulna district, which is equally prominent to the traveller and the cartographer. By turning to the map of Khulna district attached to this report it will be clear to the eye how this process has gone on and is going on from the north of the district to the south.

To take one example of the many which will be evident, the rivers Kapotakshi and Kholpetua were beyond any doubt, the side channels left when the estuarine land which lies south of Pratapnagar was formed.

As an adjunct to these processes there is land building on the sea coast, but the materials are not the same. The power and length of the Ganges and Brahmaputra have triturated to fine mud the majority of the silt which they roll down from the mountains, by the time they reach the sea, but a coarse residue remains and is carried to the Bay of Bengal in the form of sand by such streams as have the power to do so (actually at present in Khulna the Madhumati-Baleswar and to a less extent the Ichhamati-Kalindi are the only sand carrying rivers). This sand, together with sand formed by the wave trituration or chemical disintegration of submarine rocks, forms the bed of the Bay of Bengal. It does not, however, remain quiescent, but stirred up by monsoon storm winds and waves, is forced back on the coast, encroaching on the mud already deposited, and helping to build up the land. The result of this action combined with the delta-forming action of the rivers produces a peculiar physical result in the south of the district. In several places there is a sandy beach with a south western aspect; behind this beach lies a rampart of sand dunes varying from a gentle slope to an almost perpendicular buttress twenty to thirty feet high; behind this again is a grassy plain running exactly parallel to the sea face about $\frac{1}{2}$ a mile in depth; behind this again and parallel to it is a belt of mud with a stream meandering through it and overgrown with mud-loving species of trees such as mangroves; behind this belt, which is usually a quarter of mile deep, is a narrow grassy plain sloping up to grass covered ridges of sand which have behind them another grassy plain about half a mile in depth. These grassy ridges of sand with the narrow plain in

front and the broader plain behind are exact counterparts of the sandy beach with its dunes and backing of grassy plain, and there can be no doubt in the mind of one who has seen them that they represent an old sea shore in rear of and parallel to the existing shore, the small muddy stream representing the old sea water line. In places also there is yet another similar series of mud belt, grassy dunes and plain in rear of the first, denoting a still older sea beach as much as two miles in rear of the existing one. These formations give an interesting picture of land building by sand combined with deltaic action of river silt. The process seems to be as follows: The usual bar forms, as described above, at the mouth of a southward flowing river; the ebb tides setting down the centre of the Bay of Bengal, *i.e.*, south-west of the shores of Khulna district, tend to keep clear the channel on the western side of the bar and to allow land building to go on more rapidly in the stiller water east of the bar. The result is a long "bar" with south western aspect towards the open sea and with an alluvial bank parallel to it on its eastern side. The foundations of this bar and bank are alluvial mud—, but while the building process is going on, the south western monsoon has stirred up and driven inland sand from the Bay of Bengal to cover up bar and bank alike; only in the channel east of the bar, where the current still flows, the sand is unable to settle, but is carried down to the point where the channel meets the sea. Its mouth is thus gradually choked up, and it soon becomes a trickle among mudflats which gradually silts up as its free course to the sea is closed. By this time the bar has risen so high that though the current of the channel has ceased, the sand from the ocean cannot now reach it. Mangroves and other mud-loving trees take root in this mud and the landscape described above is complete; the sandy shore with its dunes sloping down to the muddy creek is the old bar, invariably facing the south-west. The muddy jungle is the remains of the old eastern channel and the grassy area in rear of that is the old east bank: for where sand has been deposited grass alone grows.

4. Swatch of no ground.—It has been suggested that the reason for the south western aspect of every such formation

in the district is that the ebb tide sets towards the "Swatch of no ground," a vast depression in the bed of the Bay of Bengal where the soundings suddenly drop from less than ten fathoms to over 200. The Swatch lies approximately in the centre of the head of the Bay about 15 miles from the coast, but its connection with tidal action is by no means established. The explanation that it is caused by the scour of the tides would be satisfactory if the tides of the Bay made up the sides and ebbled down the centre of the Bay. That they do not do so is obvious to anyone who has lain off the coast of Khulna in a launch: the tide comes in flood from the centre of the Bay and ebbs back the way it came. Colonel Gastrell (who carried out the revenue survey of Jessore district), writing in 1868 clings strongly to the idea that the causes of the Swatch of no ground are identical with the causes of the great bil area which stretches from the 24-Parganas district across the north of Khulna and Bakarganj. This great length however contrasts strongly with the known length of the Swatch of no ground which is not above five leagues, and the fact that the great bil depression is probably to a great extent due to hypogeal causes does not seem to warrant the conclusion that an earthquake or subsidence of very limited intensity is responsible for the Swatch. The most recent hypothesis, that of Mr. Addams-Williams, is to the effect that the Swatch of no ground represents the original bed of the Bay of Bengal in the only place where it is not covered by masses of silt deposit from the old course of the Ganges on the west and the present Ganges, Bramaputra and other rivers on the east. To the objection that the central delta building river, the Bhairab, should have filled in this area with silt, Mr. Addams-Williams replies by pointing out that while the western Ganges was active, there was a great concentration of silt deposit in the west of the Bay—which was, as it were, switched over to the eastern side of the Bay by the change of the course of the Ganges to the Padma. In the intervening area the action of the Bhairab was less concentrated and hence the formation of the under sea plinth was retarded in the central portion.

5. Earth subsidence.—The parallel lines of sand dunes referred to above give rise to an interesting problem

which affects the whole physiography of the district and therefore justifies the somewhat detailed account which I have given of them. How is it that Rennell's maps show that coastal erosion has gone on between 1770 and 1906, the date of the last survey of the seaface, whereas the existence of the parallel lines of sand dunes, once piled up on the verge of the sea, make it certain that land building from the seaward has gone on there?

Various explanations of the above phenomenon may be offered. The accuracy of Rennell's coastal survey is not above suspicion; it is related that he ascertained coastal distances by observing the difference in time between the flash and report of a gun fired in a boat moored off the coast. This, however, would hardly account for the great difference between the coastal outline of Rennell's map and that of the topographical survey of 1906. The apparent solution lies in the phenomenon of periodical earth subsidence which has, in all probability, exercised a vast influence on the physical geography and consequently on the whole history of Khulna district. The building action of the sea and the rivers goes on for ever, but if, at intervals, a subsidence of the earth takes place, the building action is checked and submersion of coastal areas equivalent in result to erosion takes place. If, then, after the inland lines of dunes had been formed during a period of earth quiescence, a period of subsidence took place during the period within which Rennell's survey fell, a subsequent survey would certainly show, as did the survey of 1906—that there had been apparent erosion since Rennell's time—in spite of the fact that old lines of sand dunes proved more ancient retrocession of the ocean in the same area.

The subsidence of the Sunderbans is a subject dear to the heart of antiquarians and historians of Khulna district, for on this assumption they account for the traces of ancient civilisation in the heart of muddy jungle where no man could now live. That these remains do exist is an undoubted fact; I have seen the remains of palatial buildings and temples not only in newly reclaimed land, but actually many miles within the muddy mangrove swamps of the reserved forest; without agreeing with the writers who hold that the existence of these buildings is a definite proof of the theory

that a once populous Sunderbans has become uninhabitable owing to earth subsidence, it is still fair to say that their existence fits in well with the above theory.

A far stronger proof of earth subsidence lies in the fact that wherever extensive excavations are made in the Sunderbans area, fragments of trees are found (often in the position they must have occupied while growing) many feet below the existing ground level. In Calcutta a *sundri* tree has been found no less than 30 feet below the present ground level which differs but little from the water level of the Ganges delta. The *sundri* tree will not flourish unless its roots are uncovered by water at least for a portion of the day; hence there would appear to have been an earth subsidence of 30 feet since the period when that tree was growing. Had the ground not gradually sunk as more and more silt was piled upon it, we should have a gigantic delta piled high above sea level.

6. The bil system.—This is direct and clear proof of earth subsidence, and on the strength of this proof, it is fair to regard such subsidence as an explanation of the phenomena of the coastal erosion, and the depopulation of the Sunderbans referred to above. Another result of the greatest economic importance in the north of the district which may be attributed to earth subsidence is the long chain of bils stretching from the 24-Parganas in the west to Mokimpur pargana in the east and continuing in the shape of the Madaripur bil route. This chain of bils is almost continuous and is broken only by the high land fringing the rivers which cross the bil area in a transverse direction from north to south; moreover in the 24-Parganas in the west and in Faridpur and Bakarganj districts in the east similar bils exist. The origin of these bils may be attributed with reasonable certainty to earth subsidence; they cannot be natural pockets due to silt laden rivers building up their own banks and so enclosing vast areas of low land; if this were their origin the same phenomenon would have occurred throughout the delta wherever rivers are or were active and silt laden. They are however confined to a long and comparatively narrow strip running from east to west of the above-mentioned districts. In a tank recently excavated in the high land adjacent to one of these

bils, a section of the bank showed the following strata:—

Ground level—5 feet dry sandy soil.

„ 5—10 feet wet sand.

„ 10—15 feet mud.

„ 15—20 feet caked mud
with fissures.

„ 20—21 feet vegetable
peaty debris.

„ 21—23 feet mud with tree
remains.

„ 23—24 feet vegetable
peaty debris.

„ 24—26 feet mud with tree
remains.

„ 26—29 feet vegetable
peaty debris.

Below 29 feet clear sand.

In this area therefore—below the sandy soil and mud heaped up by recent spill action of the neighbouring river two stages of forest growth have existed only to sink to a level where tree growth could not exist and was supplanted by aquatic vegetation which flourishes now in these bils; the same thing has occurred in the bils themselves for the inhabitants report, quite, credibly, that fragments of large trees exist and are found from time to time deep down below the surface: moreover according to Major Jack in his Settlement Report of Bakarganj district, brick foundations, skulls and ancient coins have been found in the Bhandaria and Swarupkati bils. The conclusion appears to be that these bil areas are strips of land particularly liable—perhaps for seismic reasons—to swift subsidence, and may be compared to the bils produced in Rangpur and Mymensingh by the great earthquake of 1897. That subsidence has gone on recently is clear from the fact that the bils are now more extensive than they were in Rennell's time, in areas where the river courses have not appreciably changed. We have seen above that intensive earth subsidence is the probable explanation of coastal changes since Rennell's time, and the extension of the bil tract points to a parallel extensive subsidence in the north of the district.

7. **River action.**—This earth subsidence by its direct action on the physical aspects of the district, is itself a considerable factor in the economic conditions of the district: another factor of great importance is the phase of deltaic action

which produces the swamps of a growing delta. Wherever silt laden rivers flow through a low-lying tract, they naturally deposit a large amount of silt on the adjacent land. This forms a sort of rampart at the edge of the river lessening gradually by a slope more or less gentle into the interior and creating a natural barrier to penetration of more silt except at spring tides or during the high water of the monsoon. As a result water-logged saucershape depressions are found between the courses of the rivers. As however silt laden water penetrates during spring tides and monsoon floods as well as by khals or channels communicating between the river and the interior, this latter area is eventually very gradually raised until it is above flood level. Deltaic action may then be said to be complete. Should however the amount of silt in the river be very considerable, it not only deposits it upon the neighbouring land but raises its own bed and eventually runs as it were upon a sort of silt formed viaduct and finds a fresh course in the adjacent low land which it proceeds to build up in the same way. It may be taken as an axiom therefore that rivers carrying a great volume of silt change their course frequently; if the volume of silt is lessened deltaic action or earth building still goes on but the river remains comparatively stable. In Khulna district the courses of the majority of the rivers are comparatively stable, but deltaic action or land building is still going on; hence almost throughout the district we find water-logged saucers or pockets lying behind the high banks which fringe the river courses. These are termed “bils”, the same name as is used for the great marshy stretches described above as due to earth subsidence—but in origin and in nature they are totally different. The great northern chains of bils are deep and impenetrable—rarely yielding a crop except at the extreme edges; the ordinary village “bils” are only water-logged in the rains, and are the source of the crop of *aman* or winter rice. But to grow the rice crop the land must be free from the inundations which occur from time to time as the result of spring tide or storm wave, and if the adjacent river carries salt water, it is essential that even the normal tidal water should be excluded from the growing crop.

8. **Embankments.**—With these objects in view man has anticipated nature;

Finally in the extreme south of the district between the muddy forest and the sea lie the open grassy tracts with rows of sand dunes described in some detail above. From an economic point of view they have some interest owing to the proposals of a recent Member of the Board of Revenue (Sir Charles Stevenson-Moore) to utilize these areas as grazing grounds like the *pré salé* of Normandy. The profusion of excellent "doob" grass led to the suggestion, but with deference to the high authority from which it emanated, it may be objected that the scarcity of potable water, the difficulty of communications and the danger of tigers' depredations are all against the scheme.

The fauna and flora of this littoral area differ both from those of the deep jungle and of the cultivated tracts. The comparative dryness of soil is reflected by the prevalence of such western Bengal and Orissa plants as *Mitreola*, *Oldenlandiodes* and *Mitrasacme Alsinioides*, of the *Papilionidae* *Hector* and *Junonia Orithya* and of the birds *Cisticola Cursitans* and *Turnix Pugnax*.

11. **Soil.**—As is to be expected in a district which is entirely deltaic in origin the soil is to a great extent of uniform character varied mainly by a greater or smaller admixture of sand. As long as the delta-building rivers had direct connection with the Ganges, they brought down a considerable admixture of sand which they deposited along with finer alluvial mud. The resulting soil was of a light sandy character suitable when first deposited for growing pulses, oil seeds, and melons, and after enrichment by vegetable detritus, suitable for fruit trees and betel vines. Soil of this nature exists in the older upland areas of the north of the district and in the vicinity of the only two rivers which now carry Ganges water, *viz.*, the *Ichhamati* and the *Madhumati*—*Baleswar*. The soil deposited by rivers whose head waters are closed is either surface deposit or fine alluvion brought down by more active rivers and distributed by connecting channels on the flood tide; in either case it is fine tenacious mud often argillaceous in character. This soil is generally prevalent throughout the district and is the main source of the paddy crop. In ancient bil areas the decayed vegetation produces a stratum of black soil, known and disliked as

"*jobe mati*". It is almost sterile unless enriched by a considerable admixture of alluvial soil, and even so, produces very inferior crops. Deep borings reveal the presence of this stratum in many places in the district, but fortunately it only crops out in a few marshy areas sufficiently near the surface to interfere with cultivation.

RIVER SYSTEM.

12. **The river courses.**—Its river system is to Khulna what veins and arteries are to the body; it carries the imports and exports essential to the economic life of the district and disseminates the progress which builds up its moral welfare: the lines of ancient prosperity and culture run across the map of Khulna where its most ancient rivers ran. But in attempting a description of this river system, there are pitfalls to be met in the multiplicity of the river names which makes a lucid account a matter of great difficulty. As the rivers change their courses and wax or wane in accordance with the laws of delta building, their names change with them. A vivid example of this lies in front of the eyes of anyone living in Khulna town. The river which runs eastward opposite to the bazar is generally termed the *Atharobanki* and the small khal which leaves this river near *Alaipur* is known as the *Alaipur khal*. But every one who uses these names knows that the river and khal in question are the true river *Bhairab*, and many of the older people have seen the *Bhairab* service of steamers plying down the khal where now small boats at times can hardly pass. The name *Bhairab* has in fact passed out of current use within the last few years, and given place to the names *Atharobanki* and *Alaipur khal*. Another source of confusion lies in the fact that two reaches of the same river have different names, and even in many cases one reach has two names. No doubt as bands of settlers came down the rivers and made their small clearings on the river banks, each band gave the river a name of their own devising; if one small colony waned in prosperity and was reinforced by members of another colony, the members of each original community would refer to the river by the name they knew. These names have persisted to the confusion of all concerned in the geography of the *Sunderbans*; not the least among

the sufferers are those of us whose duty it is to locate boundaries from the names of rivers mentioned in old documents.

Therefore in attempting a description of the waterways of Khulna, it is necessary to premise that the names adopted in many cases will not and cannot tally with those adopted elsewhere whether in description or in maps. An effort has been made to give the rivers the names most frequently used at the present day; in the case, however, of specific lists of rivers, *e.g.*, those notified under the Canals Act, the names and spelling employed in those lists have been preserved, though they do not tally with current usage. The river system of the district broadly speaking flows from north to south. Originally it served to build up the delta with Ganges silt, but owing to the closing of the head waters of most of the rivers, they now carry little but drainage of surface and bil water: only the Ichhamati-Jamuna and the Madhumati-Baleswar are at the present day spill channels of Ganges water. Of these two by far the greater volume is carried by the Madhumati-Baleswar which lies in the extreme east of the district. This fact exemplifies the hydrographical axiom of Bengal that the Ganges water is ever seeking an outlet to the sea further and further eastward and is abandoning its western channels. The reason of this is a matter of considerable controversy: of the various explanations offered the most natural is to ascribe it to deltaic action. The Ganges has been since the 16th century an eastward flowing river in this part of Bengal; hence its land building action must travel gradually from west to east and the land traversed by its more western effluents must be built up to a greater degree than that traversed by the eastern ones. The building up of the land, *ipso facto*, entails the silting up of the effluent rivers when their spill area is cut off, and by now all of the old rivers which flow through Khulna district, except the two mentioned above, have lost their delta building functions and are little but an elaborate system of surface drainage.

13. Ichhamati To Kobadak.—The most westernly of the southward flowing effluents of the Ganges within this district is the Ichhamati river. It was probably originally a southward flowing branch of the Bhairab, which met the

old Jamuna mouth of the Ganges somewhere in the north-east of the present Basirhat subdivision whence the combined streams flowed southwards to the Bay of Bengal.

At present the Ichhamati takes off from the Matabhanga south of the place where the Bhairab leaves the latter, and joins the moribund Jamuna near Tibi in Basirhat subdivision, bounding in its southward course, the extreme north-west corner of Khulna district adjacent to the villages of Chandanpur and Chanduria. Thence, leaving this district again, it flows through the 24-Parganas district as far as the village of Radhanagar in the south of Satkhira police-station from where it continues as the district boundary of Khulna and the 24-Parganas till at a point not far westward of Kaliganj it releases the imprisoned Jamuna to flow down its old course in a moribund state past the palace of King Pratapaditya whose war vessels once rode it, and to revive again into a considerable river before entering the Bay of Bengal. After throwing off the Jamuna, the westernly branch of the Ichhamati takes the name Kalindi, and under this name continues as the district boundary till it meets the Raymangal far in the south. This river, and in succession the Beary, Soya, and Haribhanga rivers form the district boundary as far as the sea.

The next main river of the district is the Kobadak—a name said to be derived from Kapot-aksha, *i.e.*, the eye of a dove. This river was once connected with the Ganges by the Bhairab and Matabhanga in Nadia district but the connection is entirely gone now, and the Kobadak carries nothing, but surface drainage. Its volume of water is however still considerable, and for the majority of its length within the district, it forms the boundary of Satkhira and Sadar subdivisions. Its high banks attest its age and former vigour and many of the principal villages of the district (*e.g.*, Kumira, Tala, Kapilmuni, Raruli, Bardal, Chandkhali) are situated on it. Between the Ichhamati and the Kobadak in the north of the district lies the great bil tract known as the Boyra Bil, the drainage of which feeds a minor river system. The Habra and the Sobnali or Gutia Khali river carry this bil water southward in parallel courses as far as the neighbourhood of Asasuni

where the Gutiakhali turns westward and joins the Habra near Uzirpur through a nearly silted up channel, and the two together flow southward under the alternative names of Gutiakhali or Golghasia river. From the point at Asasuni where the Gutiakhali turns westward to meet the Habra, it throws off the Marichap river which flows in an easterly direction to meet the Kobadak at Bardal, but before reaching there, it throws off the Kholpetua southward and receives the Betna from the north. The Kholpetua flows southward and meets the Golghasia, *i.e.*, the united Gutiakhali and Habra near Pratapnagar; the Golghasia and Kholpetua flow southward as the Kholpetua and near Kobadak Forest station on the northern confines of the Sunderban reserved forest they meet the Kobadak. Thenceforward under the name of Arpangasia the united rivers flow southward till they meet the sea in the Barapanga estuary. The Betna referred to above as flowing southward into the Marichap is a silting up river killed by deltaic action, but still of some importance from the fact that Kalaroa, Jhaudanga, Buddhata and other important villages are situated on its banks. The course of the above river system is from north to south; but since the trade routes from Calcutta to Eastern Bengal run east and west, it has always been of importance to secure a waterway which avoided the tedious southern detour through the Sunderbans. The first step was taken by a Collector of the 24-Parganas by name Goodlad who in 1795-96 cut a khal to join the Jamuna at Kaliganj with the Banstola khal which flows westward from the Golghasia. This enabled merchant boats to come from the Ichhamati into the Golghasia and proceed north eastward *via* the Gutiakhali and Marichap to the Kobadak. This khal from Kaliganj to its junction with the Banstola was originally known as Goodlad's khal, but that name has long been displaced by the name of Kekshiali khal. Later on in order to avoid the southern detour by the Banstola into the Golghasia, a straight khal was cut from the junction of the Kekshiali and Banstola khals to the Habra river, near Uzirpur, at the point where the Gutiakhali joins it. This khal is known now as cut No. 1 or the Uzirpur Katakhal; as long as the Gutiakhali khal was navigable, the Katakhal was of great value as a trade

route, but since the silting up of the former between Asasuni and Uzirpur, the latter has lost its importance.

14. Kobadak to Bhairab.—East of the Kobadak the next great river of the district is the Bhairab. This river was undoubtedly of the greatest importance in the central delta, and there is good reason to believe that it began the delta building work in this area as a spill channel from the left bank of the Ganges before the latter river changed its course from south to east; how far the Bhairab itself was concerned in the change of the Ganges course in the 16th century is a moot point, and its discussion lies outside the scope of this report. After the change was effected, the offtake of the Bhairab was from the right bank of the Ganges and it flowed south eastwards past Jessore and Khulna into the Baleswar and Haringhata estuary, building up the delta with Ganges silt. Later on both the Jalangi and Matabhanga opened out in a southerly direction across its course carrying its waters away to the south or south-west, and robbing it of its ancient vigour till by the middle of last century it was only recognized as an effluent of the Matabhanga; eventually, so far has it lost its identity that its course between the Matabhanga and Tahirpore where it gives off the Kobadak is generally considered to be part of the Kobadak. The connection of the Bhairab-Kobadak with the Matabhanga was destroyed, it is related, by the cutting of a channel across the neck of the loop in the Matabhanga from whence the Bhairab-Kobadak is given off; the Matabhanga deserted the loop and the two rivers were deprived of their head waters.

Since 1874 the upper Bhairab has revived, but between the Matabhanga and Basantia in Jessore the river is still dead, and in the dry weather is little more than a string of muddy depressions. Southward of Basantia it regains life owing to the influx of water from the Narail bil area, which is fed from the spill of the Gorai and Madhumati; most of this water passes into the Bhairab through three channels, the Afra, the Majudkhali and the Atai, the former in Jessore and the two latter in Khulna district. Fed by these rivers the Bhairab flows as a broad stream past Phultala, Daulatpur, Senhati and Khulna as far as Alaipur where for reasons to be described later it dies, and

continues as a shallow khal as far as Jatrapore. Here it used to take a great bend northwards and describe nearly a complete loop before passing southward to Bagerhat; the neck of this loop was cut through not long before 1876 and the western and northern reaches of the loop are now only visible as a small khal. The eastern reach however brings down a copious supply of the bil water spilled south of Moilahat by the Atharobanki and carried down by a branch of the Chitra river to the old loop of the Bhairab. Thence as far as Bagerhat the river flows with ample volume, but before it reaches the Madhumati-Baleswar at Kachua most of its water passes southward through the Daratana, leaving its ancient course almost dry. An attempt has been made to shorten the route from Bagerhat to Kachua by cutting through the neck of a loop in the river, but this cut, known as the Kachua cut, has not proved a success and is only navigable for boat traffic at high tide. The sudden death of the river at Alaipur is primarily due to the forcing back of the Bhairab current by the Atharobanki which, as will be explained below, only began to develop in the first half of last century; this however did not entirely kill the river for it was navigable to steamers within living memory. The final causes of the river's death between Alaipur and Jatrapore are probably the restricting of the flow of bil water by the embanking of the Kaliganga which runs from the northern bil tract into the Bhairab near Mansa, and also to the cutting of the neck of the Jatrapore loop in the early seventies of last century, which shifted the tidal meeting ground to a point where it could not be kept free from silting by the northern bil water. The revival of the river at Jatrapore as pointed out above is due to the influx of bil water from the north and its subsequent death between Bagerhat and Kachua is due to the opening out of the Daratana river which leads the Bhairab water southward through a course which bears many names before it joins the Panguchi at Morrellganj. The great villages and trade centres situated on the banks of the Bhairab attest its former greatness; and it was along its banks that the first colonizer of the Sunderbans, Khan Jehan Ali, built his road to Bagerhat more than 450 years ago. Between the Bhairab and the Kobadak the great bil area of the north of the district is continued and like the

Habra and Gutriakhali in Satkhira subdivision, numerous effluents, too numerous to particularise, carry the bil water southward till they unite in the Sipsa river which flows southward from the neighbourhood of Soladana to join the Pasur at the head of the Marjata estuary. One of many rivers which traverses this bil tract requires mention; the Bhadra used to flow from the Kobadak near Trinchini in Jessore, but, like the Kobadak and Bhairab, has silted in its upper reaches and now flows southward as a drainage carrier till it joins the Pasur in the Sunderban forest. On its banks many flourishing villages were founded, including in Khulna district the trade centres of Chuknagar and Dumuria, and the village which gave its name to Sahos pargana. The tract between the Kobadak and Bhairab is better off in respect of east and west communication than the Satkhira tract between the Ichhamati and Kobadak. The main arteries are the Chandkhali khal and Menus river which join the Kobadak to the Sipsa; thence the Dhaki Creek leads to the Bhadra river which in turn is connected by the Chunkuri khal with the Pasur, and so with the Bhairab at Khulna. An alternative route from the Sipsa to the Bhadra is *via* the Sutarkhali khal which fringes the Sunderban reserved forest and in spite of an inconsiderable width is of considerable depth and is much used by boats coming from the south. South of the Chandkhali khal the Koyra river and the Shakbaria khal afford navigable routes from the Kobadak to the Sipsa and north of Chandkhali two artificial channels known as Cut No. 2 and the Boalia or Sitagunge khal connect the Kobadak with the Sipsa system near Paikgachha. Villagers on the banks of the Kobadak south of these artificial cuts are bitter against them, saying, with good reason I believe, that the fresh water of the Kobadak flows through them into the Sipsa and leaves the crops of southern villages at the mercy of the salt tides from the sea. It is a fact that in recent years the crop failures in the area south of these cuts have been numerous while the villages on the banks of the Sipsa system have enjoyed a good crop. This was a considerable factor in the Jamabandi proceedings of these groups of villages and will be referred to in detail in connection with those proceedings.

15. The central and eastern rivers.—
From the point opposite Khulna town

where the Bhairab turns from its southerly course to an eastward direction, the Rupsa river flows southward and continues as a large river for about three miles till it is joined by a small khal called the Narayankhali khal; thenceforward it continues as the Kajibacha or Kachipata river till it meets the Pasur flowing from the north-east; thenceforward, as a mighty river under the name Pasur, it flows southward to the sea. At present from Khulna town southward to the sea the same river appears to bear four names Bhairab, Rupsa, Kajibacha and Pasur; the origin of these names was as follows: The Pasur was a river draining the swamps of Hogla pargana east of Khulna and flowing southward to the sea; a similar river the Kajibacha drained the swamps west of Daulatpur and flowed southwards as a small river parallel to the Pasur ultimately joining it near Chalna. One Narayan Ghosh cut a channel connecting the head water of the Pasur with the Kajibacha and another khal was cut by one Rup Shaha connecting the Bhairab at Khulna town with the point where Narayan's khal met the Kajibacha. Thus through the khal of Rup Shaha (now the Rupsa river) and the khal of Narayan Ghosh (now the Narayankhali khal) the Bhairab and Pasur water flowed into the Kajibacha swelling it to a mighty river at the expense of the Bhairab and Pasur. This is the river which flows from the Bhairab and Rupsa rivers and after its junction with the attenuated Pasur river near Chalna continues as the Pasur to the sea. The main cross channels which connect this river with the hil area between the Bhairab and Kobadak and its southward effluents are the Solemari which joins it at Baitaghata, the Jhabjhabia which joins it nearly opposite to its junction with the old Pasur, and the Chunkuri khal which flows from the Bhadra and joins it at Chalna. Further south in the Sunderban forest it receives the waters of the Bhadra and the Sipsa. Mention has been made above of a branch of the Chitra river feeding the Bhairab at the Jatrapur loop. This Chitra river apparently flows from the Atharobanki at Nagorkandi, and after throwing off the Kaliganga runs by a somewhat devious course to the old Madhumati at Chitalmari giving off on the way the branch alluded to above. There is no apparent connection at present between this river and the Chitra in Jessore which discharges into the Atharobanki at

Chagladaha from the north after flowing past Terakhada police station, but there is little doubt that they were originally the same stream intersected at present by a reach of the Atharobanki. Apart from the fact that the comparative continuity of their courses roughly parallel to the Bhairab and the similarity of names argue their identity, it is very significant that the lower Chitra river before it reaches the Madhumati is the definite boundary of the lands of parganas Chirulia and Selimabad, for from this fact we can deduce that it was a stream of considerable importance at a very remote period. It is unlikely that a local stream a few miles long would have this importance, which is easily explainable on the supposition that it was then a part of the long delta building river Chitra. A similar argument applies to the Nalua river in Mollahat thana whose dead course bounds Mokimpur pargana. It was undoubtedly a considerable river in ancient times and its deterioration has been going on up till recent years, when its bed has entirely dried up for a considerable part of its course. It is currently reported that the drying up of the Nalua has seriously affected the health of the locality and its re-excavation is one of the local sanitary projects consistently advocated by the present able Chairman of the District Board, Rai Amrita Lal Raha Bahadur. The area between the Pasur on the west, the Madhumati-Baleswar on the east and the Bhairab on the north is almost entirely reclaimed Sunderban land. The name of its principal parganas Madhudia or Madhya dwip (middle island) and Hogla (the great Sunderban reed) point to a time when it was a swampy tract at the edge of the Bay of Bengal intersected by channels which represented the remains of a silting estuary. When reclamation began, sufficient sweet Ganges water came down these channels from the north to make large marginal embankments unnecessary; hence unlike the areas west of the Pasur, natural deltaic action has built up the land leaving only the central depressions which as explained above are its inevitable concomitants. So long as the river channels were sufficiently deep to carry off the rain and flood water, the lands bore good crops, and this area has been notably free from the famine and scarcity due to crop failure which have visited the district from time to time. Now, however, during the last decade the rivers have received more silt than they can carry,

and their beds have been raised above the levels of the central depression. Small marginal embankments or "patharis," as they are called in this part of the district, have prevented the rivers making the lateral shift which they would have done if untrammelled, hence the heightened rivers are now unable to drain the water accumulating in the deltaic pockets or bils. The result is that the areas are liable to flooding, and crops are thereby damaged, but as the water is sweet and as growing paddy can stand a considerable amount of immersion in sweet water, the damage caused to these areas is insignificant as compared with that suffered by the saline tracts in Paikgachha and neighbouring thanas. There are however certain low-lying tracts where the drainage problem is becoming acute, and concerted action under the recent Agricultural and Sanitary Improvement Act seems very necessary. Efforts in this direction have been made by the Laha Estate in respect of the areas adjacent to the Manikkhola river, and certain Government estates notably Teliganti and Kaker Bil require immediate attention.

Mention has already been made of the river Daratana which carries the Bhairab water southward from Bagerhat. At the time of the Revenue Survey this river did not exist: the Putimari was thrown off from the Bhairab near Bagerhat to flow southward more or less in its present course. Subsequently a direct channel to the south was formed by the opening of the Daratana which now flows from the Putimari a mile below its junction with the Bhairab to the junction of the Chhaybanki khal with the river which runs southward to Morrellganj under a variety of names, of which the Keora is in most general use. Here it unites with the Bishkhali and continues to the Baleswar as a large river, under the name Panguchi. The Bishkhali flows southward from a bend in the Baleswar river and was, only a few years ago, the main artery of traffic from the northern reaches of that river to Morrellganj. It has silted up with amazing speed recently, and where I travelled in a large steam-launch in 1920 I can now (in 1925) cross the river almost dry-footed at low tide. In a similar way the Manikkhola river has silted up; this river leaves the Keora river a few miles south of the Chhaybanki khal referred to above, and joins the Bhola river. It used to carry the drainage water of the fertile Sunderban estates which border

it, but its silting up has jeopardised the crops and is an acute problem for Government and the Government lessees. As noted above, the Laha Babus have taken the initiative in respect of the Phulhata estate which they hold on a long lease, and though the proceedings have dragged on in a tantalising fashion since the estate was inspected as long ago as 1920 by an officer of the Irrigation department, it is to be hoped that attention having been directed to the matter, more vigorous action will ensue in this area. The Bhola river flows out of the Putimari near Khondkarber estate and continuing in a southern direction becomes the boundary between the Khao-lia Barisal estates of Sarankhola police-station and the reserved forest. The Putimari, as already stated, takes its origin from the Bhairab at Bagerhat and flows southward to join the Chachan river near the present Chandpie forest station: it is often called the Chilla Chandpie River in its lower reaches. Though now not a large river, it has a special importance from the fact that for a considerable part of its course it forms the boundary between the Sunderban estates and the lands of pargana Hogla and the so-called parganas (in reality Henckell's Taluks) of Ballabhpur and Gokulnagar. The Chachan river is a cross stream flowing from the Pasur river and forming the northern boundary of the reserved forest; after joining the Putimari, it takes the name of Kharma khal—a fast silting khal which once gave access to river steamers from the Pasur to the Bhola, but now is hardly traversable by a small launch at the height of the tide. Two other rivers drain the swamps south of the Bhairab and flow southward parallel to the Putimari; these are the Kumarkhali and the Daudkhali which join at Rampal and thenceforward flow in a south-westerly direction to the Pasur as one river the Mangla. The northern reaches of these rivers are silting up and a launch journey by the Daudkhali from Rampal to Gaurambha which was possible in 1922 is now out of the question. A few miles south of the junction of the Mangla and the Pasur the Chilla river leaves the Pasur and flows in a south-easterly direction to the Putimari forming the boundary between the Sunderban estates' lands and the lands of pargana Hogla.

16. **Madhumati-Baleswar.**—The above description comprises all the main rivers

Of the district, except the Atharobanki and the Madhumati-Baleswar, which have been incidentally referred to. As these rivers at present carry a very large proportion of the sweet Ganges water, which enters the district, some further description of them is necessary. The Madhumati can fairly be called the most important river in the district at the present day and has therefore a great influence on the physiography and the economic condition of the eastern portion of the district. It derives its waters from the Ganges through the Gorai: the latter is not a river of this district, but in its capacity of feeder of the Madhumati, its history belongs to the history of the district. Early in the nineteenth century the well known change in the course of the Brahmaputra, which deserted its eastward channel and found an outlet into the Ganges near Goalundo, drove back a considerable amount of Ganges water into the Gorai. The waters of the Gorai leaving the Ganges at Kustia had previously flowed southward through a channel called the Barasia, and through the Nabaganga both of which are shown in Rennell's map as parallel southward continuations of the Gorai, uniting not far from Lohagara. South of their junction the river is shown as the Madhumati. When however the volume of Gorai water was augmented, these southward effluents proved too small. The Gorai then found its way southward through another small channel called the Alangkhal, parallel to the Barasia, enlarging it to such an extent that it became the main channel, and received the name Madhumati which had previously only been applied to the southern reaches of the river. This change of name has given rise to much confusion in the past for which Westland in his History of Jessore is mainly responsible. He categorically states that "the recent formation of this great river (the Madhumati) is not a mere matter of argument or probability. It is a fact perfectly well known in the vicinity being almost within the recollection of persons now living" (this was written in 1874). This sentence of Westland has been used as an argument that the Madhumati did not exist at the time of the Permanent Settlement, a fact which, if proved, would have an important consequence from a revenue point of view; for if the Madhumati did not exist then no diara resumption could be legally undertaken in the bed of this river on the

basis of the revenue survey maps. It is however certain that the Madhumati south of Kalna near Lohagara did exist at the time of the Permanent Settlement; what happened thirty years or so later was the enlarging of the Alangkhal and the adoption of the name Madhumati for this part of the river, and it is to this fact that Westland refers in the paragraph quoted above. Several cogent proofs of this fact are available; firstly Rennell's map prepared between 1764 and 1772 shows the Madhumati as a considerable river south of Kalna; it could not have entirely died by 1793 and been reborn at the period referred to by Westland. Secondly in a subsequent paragraph Westland substantially corrects the impression given by his misleading reference to the recent formation of this great river; he states that "the new channel obtained the name Madhumati (honey flowing), that being the name by which the lower part of it, that below the point where it received the Nabaganga in the marsh just alluded to (the Mokimpur marsh), used to be called". This sentence makes his true meaning clear; the "recent formation" refers definitely to the enlargement of the channel of the Alangkhal. Thirdly it appears that a series of alluvial resumption cases were started between 1816 and 1846 in the area south of Kalna, but were dropped, not on the ground that there was no river there at the time of the Permanent Settlement, but on the grounds that the river in its career through the pargana washed away land from some villages and added lands to others and therefore it would be unjust to assess the accretions. This principle is now obsolete, but its citation at the time shows clearly that quite shortly after the beginning of the nineteenth century, the existence of a large and active river at the time of the Permanent Settlement was fully believed in. It may therefore be safely assumed on the three grounds stated above, that the enlargement of the Gorai early in the nineteenth century resulted in the cutting of a great river where the small Alangkhal khal had been, but that south of the junction of the Alangkhal and the Barasia the only result was the increasing of the volume of an already pre-existing Madhumati river.

On this point—*aliquando dormitat Homerus*—even Mr. Addams-Williams seems to have been led astray by Westland whom he quotes. Mr. Addams-Williams (History of the Rivers of the

Gangetic Delta, pages 52 and 53) states that the lower reaches of "the Barassi appear from Rennell's map to have followed much the same course as the Madhumati does now; it continued to the sea through the Ballisur and Hari- inghata estuary". In this sentence he overlooks the fact that in Rennell's map the name "Madhumatty" is given to the river immediately south of Kalna. The point that the Madhumati actually did exist from Rennell's time has been emphasised here as important Diara proceedings were not long ago held up on the strength of the misleading statement of Westland referred to above.

It is not very clear at what point the Madhumati takes the name of Baleswar in its southward course. The name appears in Rennell's map just north of Kachua; it is possible that the mouth of very ancient river Chitra (the existence of which as a pargana boundary is referred to above) marked the spot where the river changed from the "honey flowing" to the "lord of strength".

17. **Atharobanki.**—A direct result of the increase in volume of the Madhumati was the formation of the Atharobanki river which now joins the Madhumati with the Bhairab near Alaipur and forms the northern boundary of the district for a considerable distance. This river was not in existence in Rennell's time, and in a navigation map of 1821 prepared by J. A. Schaleh, it is shown as a very small river. Comparison of Schaleh's map with the revenue survey maps would seem to show that in 1821 the Atharobanki was about half the width which it had reached by the time of the revenue survey (about 1857) and occupied a materially different course. There is therefore every reason to believe that about the time the volume of Gorai water increased, the Atharobanki channel formed as an outlet for some of the surplus Gorai-Madhumati water, carrying it into the Bhairab at Alaipur. It is from this point (as referred to above) that the Bhairab river has shrunk to a small khal until it receives fresh life from the bil drainage waters near Jatrapur, and this shrinkage can be primarily attributed with reasonable certainty to the action of Madhumati-Atharobanki water driving back the Bhairab water into the Rupsa channel. It is worth noting that in the map attached to Gastrell's report of the revenue survey of this area the Atharobanki is given the alternative

name of Chitra; this in an added argument in favour of the continuity of the old Chitra referred to above.

18. **Summary of river system.** The following resumé gives the salient points of the river system of Khulna district. A little Ganges water still comes down the Ichhamati on the western boundary of the district; but the main channel by which Ganges water is received is the Madhumati-Baleswar which forms for the majority of its course the eastern boundary of the district; no other river now carries Ganges water into the district throughout the year. As a result of this, all parts of the west and centre of the district which are not raised by deltaic action above flood level are subject to saline inundation, a danger enhanced as pointed out above by premature embankment. The old rivers Betna, Kobadak, Bhadra, etc., still flow in their courses; but as they have lost their connection with the Ganges, they serve rather as conduit pipes by which the salt water is carried upwards than as channels for distributing sweet water. In the height of the rains, the surface drainage of rain water and the increased volume of southward flowing water from the Ganges sweeten these rivers to some extent and mitigates damage done to crops by floods at that season; the amount of sweet water varies from year to year, and a year when salt water prevails in July and August gives rise to the gravest danger of local crop destruction and consequent scarcity. Certain rivers however notably the Sipsa and to some extent the Pasur draw their water from the great bil depression which runs from west to east across the north of the district. These rivers always carry a considerable proportion of fresh water and the villages situated on their banks consequently suffer less from saline damage than those situated on the old effluents of the Ganges. Both these classes of rivers are alike in the fact that they do not carry any great quantity of silt, hence no great amount of deterioration in their courses is going on at present and alluvion and diluvion since the revenue survey has been comparatively small. But the embanking of the saline rivers with high and strong embankments with a view to keep out salt water from the crops has had the natural effect of confining the salt tide and so forcing it higher and higher up the rivers, thus necessitating further embankment work and creating a vicious circle of salt water leading to embankment and embankment

extending the salt water area. In the east of the district however the conditions are different. The salient factor is the silt laden sweet water of the Ganges which pours down through the Madhumati-Baleswar and its effluents. On the one hand this volume of fresh water drives back the salt tides and so saves the area from the dangers of excessive or premature embankment: on the other hand this area, particularly within the boundaries of the Bhairab on the north, the Pasur on the west, the Madhumati-Baleswar on the east and the reserved forest on the south, is becoming liable to flood owing to the deterioration of the rivers as drainage carriers by reason of the silt they still carry.

As regards navigation, the west and centre of the district are except in isolated spots in a comparatively stable condition, for not enough silt is carried to choke the rivers courses; but in the east deterioration of the rivers is going on apace and a single lustrum has changed the navigable channels to a considerable extent.

19. Problems of Khulna rivers. The problem of the rivers of Khulna is therefore twofold; firstly, how to keep the rivers alive and, secondly, how to keep the salt water or flood water out of the land, in other words the conservation of the rivers and the conservation of the fertility of the soil.

The first problem is pre-eminently the sphere of the irrigation authorities; but they have little concern with the second. The revenue administration is obliged to envisage both. The paramount object is admittedly to keep the rivers alive, for a moribund river is useless for navigation or for drainage and breeds the fatal anopheles. The question seems to resolve itself into the adoption of one of two alternatives, the extension of the spill area of the rivers in order to free them from choking silt or reconnecting the dead rivers with a head water supply. Extension of tidal travel inland is efficacious from the point of view of navigation, for the action of the tides ensures an adequate channel, but the extension of tidal range involves the extension of the salt water to the detriment of agricultural prosperity. Spill area can only be extended by prohibiting embankments and tentative efforts have been made in that direction by the extension of the Embankment Act to the Sunderbans and by the executive orders restricting erection of

embankments in case of new leases of waste land until the land has reached the mean level of spring and neap tides. Further measures are obviously impossible as far as marginal embankments are concerned, but it is not only feasible but essential to envisage from an expert point of view the results of proposed new roads, railways and other similar works which would tend to restrict tidal spill. To prohibit marginal embankments in a saline area where there are already vested interests is equivalent to expropriation of large tracts, a policy for which Government has probably neither financial means nor inclination.

The other method is that of re-opening dead channels or opening up new channels in order to ensure a flow of head water. Nothing can be urged against this provided it is feasible; for it will deal equally effectively with the problem of the salt water in the west and centre, with the drainage problem in the east and with the questions of navigation and sanitation. The question whether it is feasible is for the experts—and the result of the test scheme of re-opening the head waters of the Bhairab or any similar scheme which may be taken up, will be awaited with the greatest interest, for upon its success or failure will hang much of the prosperity of Khulna district.

CLIMATE.

20. Seasons. The seasons in Khulna differ in no respect from those in other parts of Lower Bengal; but as is to be expected from its geographical position, Khulna enjoys a climate cooler and damper than that of the dry western districts, but suffers in this respect by comparison with Eastern Bengal. The distinctive feature of the climate is the salt laden air which is prevalent throughout the year—but especially so when the south winds blow. From November to February when the temperature of the land air drops, the more stable sea preserves a belt of light warm air which rising upwards gives place to the heavier cold air of the land. This causes the current of cool air from the north which is the prevailing wind during those months. In February the sun's rays, gathering power, heat up the land but fail to affect the stable sea to the same extent. The land air then becomes hotter and lighter than the sea air, and as it rises gives place to a current of air from the sea, which rushes up in the form

of the salt southerly winds which prevail from February to November. The wide estuaries and waterways of Khulna provide ample passage for this south wind which, though it impregnates the air with salt to an extent which damages fabrics and affects some constitutions, still affords a grateful coolness in the hottest months of the year.

21. Storms and cyclones.—Two types of storm are prevalent: one occurs in the form of short heavy rain accompanied by wind from the north-west, usually occurring towards dusk in March, April and May. These storms are due to the excess of moisture brought up by the prevailing south winds, precipitated by the cold air and accompanied at times by heavy hail. They are usually of short duration, but often sufficiently severe to damage or sink country craft on the rivers, thereby causing loss of life. They also damage the ripening fruit trees, such as mango or litchi by stripping off the setting blossoms. The other types of storms are the dreaded cyclones of the equinox, which have played so great havoc in the district in the past. The mechanism of a cyclone has been described as a cylindrical vortex with its axis nearly vertical rolling along at a rate conjecturally dependant partly on the tilt and with an axial uprush of air to fill up a central depression— which depression is nevertheless maintained and might be intensified by the whirl, the energy being derived from the condensation of the vapour. It is of course the uprush of air which produces the cyclonic wind, and the above description embodies the well-known phenomenon that after the first onrush of wind a calm period ensues, while the centre of the vortex passes over the observer, and is followed by a further violent wind as the other side of the cylinder arrives.

The following list comprises the cyclones, which have visited the district during the last century, as far as can be ascertained from reliable sources:—

- May 14th and 15th, 1852.
- October 5th, 1864.
- November 1st, 1867.
- May 16th and June 9th, 1869.
- September 20th, 1872.
- October 17th, 1909.
- September 24th, 1919.

There was also a severe cyclone in 1876 which however affected Khulna to a less

degree than the adjacent district Bakarganj where one hundred thousand people were carried away by the immense tidal wave, which roared in from the Bay of Bengal and twenty-five thousand more fell victims to the cholera which broke out after the disaster. The cyclones of 1909 and of 1919 are matters of comparatively recent memory: many districts were more or less affected, but a considerable measure of the disaster in both cases fell upon Khulna. The 1909 cyclone was preceded by a depression close to the Andaman Islands, which developed into a storm with a wind velocity of 77 miles per hour. This storm crossed the coast of Khulna about midnight on the 16th of October, reaching Sarankhola about 2 A.M. on the 17th, and extending to the northern parts of the district, including Khulna town by 8 A.M. and continuing to rage until about 2 A.M. on the 18th when it passed away to the north. The tidal wave which accompanied the storm swept up all the large rivers of Khulna on October 17th beginning at the sea at 11 A.M. and reaching its greatest height the same night: its destructive effects were mainly confined to the southern parts of the district, the northern parts merely experiencing an unusually high tide. The loss of life due to storm wind and tidal wave in Khulna district was estimated at 698 persons, of whom 500 were swept away by water in Sarankhola police station area which reaches nearer to the sea than any other deforested area of the district. This is a strong reinforcement to other arguments for preserving the reserved forest area of Khaolia Barisal Lot No. 7 which is direct buffer between the Bay of Bengal and the inhabited parts of Sarankhola police station. The loss of cattle ascribed to this cyclone is 70,654, but this large figure is perhaps open to doubt. Damage to crops was however unexpectedly small; the rivers were brimming with rains water which counteracted the noxious effect of the salt sea water, and the paddy crop withstood its temporary immersion. In no part of the district was the damage to crops estimated at more than two annas of the whole, and many parts escaped entirely. No epidemic followed the cyclone and no relief measures beyond sporadic and temporary gifts of rice and clothes were found necessary.

The cyclone of 1919 developed from a storm in the Bay of Bengal and struck

the coast of Khulna about 9 A.M. on September 24th; it entered the southern extremity of the cultivated area of the district about 4 P.M. and reached the north of the district between 9 and 10 P.M. The storm wave which followed the hurricane appears to have been less violent than that of the 1909 cyclone, and it is probably for this reason that the deaths in the district only reached the figure of 432 as compared with 698 in 1909. The cattle mortality was reported at 28,029, a much smaller figure than that of the 1909 cyclone but, as stated above, the latter figures are not above suspicion.

22. Scarcity of 1921.—The damage to crops in Khulna district was considerable, for the cyclone came a month earlier than that of 1909, and hence found the crop less vigorous and able to withstand the force of wind and water. Paddy cultivation is late in the Sunderban tracts and transplantation does not take place till August or September; hence the still weakly seedlings in those areas mostly perished. Another more far reaching effect of the cyclone was the destruction of the embankments which are necessary to keep salt water out of Sunderban “abads” or cultivated areas. By immemorial custom the tenants as a rule repair these embankments annually, the work being done from November onwards throughout the cold weather. This year however the people, in many cases rendered homeless or suffering other severe loss, were in no mood to undertake the accustomed work and neither landlords nor local officers realised the necessity of concentrating on it before it was too late. Organised relief was given to the people throughout the cold weather, and they attempted to grow the crop of 1920 with make-shift patching of the embankments. This patch work was a failure partly because it was hurried and inadequate and still more because it was delayed until the water became very salt after the effects of the rains had passed away, and when the water is in this condition, the earth never binds sufficiently to make a secure embankment. Hence in certain tracts of the district particularly, in police-stations Raikgacha, Asasuni, Kaliganj and Shyamnagar there was much saline inundation in 1920; the crop was to a great extent destroyed and the patch work embankments fell to pieces.

By the hot weather of 1921 the two successive crop failures had turned a prosperous area into a region where poverty, want and almost starvation were felt. Relief measures became necessary, and though famine was not officially declared, it was necessary for some eight months, to distribute clothing and rice to the destitute and to organise relief work for those able to perform it. The favourable rains of 1921 helped to neutralize the effects of the saline inundation. A better harvest was produced, and the people, heartened by this and subsisting upon the relief distributed, succeeded in repairing the majority of the damaged embankments during the cold weather, though, as described elsewhere, in a few estates the increasing salinity of the Kobadak water has hindered all efforts at recultivation, and has rendered these estates a problem of some difficulty in the revenue administration of the district.

23. Rainfall.—The district average annual rainfall for the last decade compiled by the Meteorological Office, Calcutta, amounted to 72·61 inches. The wettest month of the year is July in which 13·21 is recorded as the average rainfall; this decreases month by month till January when 4·5 only is recorded; thenceforward the average rises steadily till it culminates again in July. The four wet months of the year are June, July, August and September, each of them having a rainfall nearly double that of the next wettest months. There is a wellknown saying in Bengal যদি বর্ষে মাঘের শেষ, ধন্য রাজার পুণ্য দেশ [If it rains towards the end of Magh (*i.e.*, early in January), the King is rich and the country blessed]; this hardly applies to the majority of Khulna district for the *aman* paddy crop is reaped late in January and the early ploughing which requires showers in early January is impossible. Of far greater importance in the tracts subject to saline inundation is well distributed rainfall throughout the cultivating season in order to wash out the inevitable percolation from embankment breaches or storm tide water, and a failure of rain for two or three weeks during this period is liable to bring disaster to the crops. Showers in late October and November when the paddy is maturing are most beneficial, but anything in the nature of a storm is fatal for it beats down and destroys the ripening crop.

COMMUNICATIONS AND TRADE CENTRES.

24. River Communication.—The river system of the district described above forms the normal means of communication of a large percentage of the population. A census of the small boats in the district taken during the present operations shows a total of 37,383, *i.e.*, about 1 per every twenty male persons: this is exclusive of the large merchandise boats which pass through the district and which it was impossible to enumerate. Small boats pass through every one of the innumerable channels which intersect the district—finding no obstacle even in the embankments at the mouths of the smaller khals—over which they are dragged like a Thames rowing boat over the rollers at a closed lock gate. The smooth surface of the

mud takes the place of the rollers and the boat is hoisted up and over with little exertion.

25. Steamer and Boat Routes.—Steamers and larger boats keep to certain defined routes which are known as the “Steamer route”, “Outer boat route” and “Inner boat route” respectively. Government makes itself responsible for the supervision of these routes through the Eastern and Circular Canals Division of the Irrigation Branch of the Public Works Department. The following rivers have been declared as channels under the Canals Act (Act V of 1864), and by the operation of this act the local officers of the above Department maintain these channels in good order as far as financial restrictions permit:—

Steamer Route.

Serial No.	Name of river of channel.	From.	To.	Length miles.	Notification.
1	2	3	4	5	6
1	Haribhanga River ..	Junction with Terobankoe River.	Junction with Soya River.	7	Notification No. 230, dated the 23rd July 1895.
2	Soya River ..	Junction with Haribhanga River.	Junction with Beory Khal.	3	Ditto.
3	Beory (Bhiri) Khal ..	Junction with Soya River	Junction with Raymangol River.	3	Ditto.
4	Raymangal River ..	Junction with Beory Khal.	Junction with Atharobanki River.	2	Ditto.
5	Atharobanki River ..	Junction with Raymangal River.	Junction with Mandah River.	12	Ditto.
6	Jabuna River ..	Junction with Atharobanki River.	Junction with Firinghi Khal.	3	Ditto.
7	Firinghi Khal ..	Junction with Jabuna River.	Junction with Malancha River.	3	Ditto.
8	Malancha River ..	Junction with Firinghi Khal.	Junction with Araibanka	7	Ditto.
9	Araibanka ..	Junction with Malancha River.	Junction with Arpangasia River.	2	Ditto.
10	Arpangasia River ..	Junction with Atharobanka.	Junction with Kole Khal	9	Ditto.
11	Kole Khal (Ghole Khal)	Junction with Arpangasia.	Junction with Shankberia.	1½	Ditto.
12	Shankberia River ..	Junction with Kole Khal	Junction with Bojboja River.	3	Ditto.
13	Bojboja River ..	Junction with Shankberia River.	Junction with Satbari River.	2	Ditto.
14	Satbari River ..	Junction with Bojboja River.	Junction with Sibsa.	3	Ditto.
15	Oura Sibsa ..	Junction with Satbari River.	Junction with Sibsa River.	4	Ditto.

Serial No.	Name of river of channel.	From.	To.	Length miles.	Notification.
1	2	3	4	5	6
16	Sibsa River ..	Junction with Oura Sibsa River.	Junction with Adashai Creek.	2	Notification No. 230, dated the 23rd July 1895.
17	Mankee River ..	Junction with Adashai Creek.	Junction with Pasur ..	0	Ditto.
18	Pasur River ..	Junction with Mankee	Junction with Mirgamari River.	9	Ditto.
19	Mirgamari River ..	Junction with Pasur ..	Junction with Solaganj	6	Ditto.
20	Solaganj ..	Junction with Mirgamari River.	Junction with Aroobari River.	4	Ditto.
21	Aroobari River ..	Junction with Solaganj	Junction with Bhola River.	5	Ditto.
22	Bhola River ..	Junction with Aroobari River.	Junction with Manikkhola River.	12	Ditto.
23	Manikkhola River ..	Junction with Bhola River.	Junction with Ghosikhali.	7	Ditto.
24	Ghosikhali River ..	Junction with Manikkhola River.	Junction with Jeebdhara River.	2	Ditto.
25	Jeebdhara River ..	Junction with Ghosikhali.	Junction with Baluibunia River.	4	Ditto.
26	Baluibunia River ..	Junction with Jeebdhara River.	Junction with Panguchi	3	Ditto.
27	Panguchi River ..	Junction with Baluibunia.	Junction with Baleswar River.	3	Ditto.
28	Baleswar River ..	Junction with Panguchi	Junction with Kocha River.	3	Ditto.
29	Atharobanki River ..	Junction with Bhairab at Alaipur.	Junction with Madhumati at Astail.	20	Notification No. 162, dated the 22nd July 1902.
30	Bhairab River ..	Junction with Rupsa River at Khulua.	Junction with Majoorkhali Khal.	10	Notification No. 7, dated the 1st September 1914.
31	Majoorkhali Khal ..	Junction with Bhairab	Junction with Atai ..	4	Ditto.
32	Atai ..	Junction with Majoorkhali Khal.	Junction with Mulor Khal.	2	Ditto.
	Gazi khal including	Junction with Mulor Khal	Gazirhat ..	1	Ditto.
33	Atai ..	Junction with Bhairab River near Solepur.	Junction with Majoorkhali Khal.	8½	Ditto.

Outer boat Route.

1	Barakulia River (including Morrison's Cut and Kalindi).	Junction with Bara Kalagachhia.	Junction with Kalindi and up to Basantapur.	24	Notification No. 230, dated the 23rd July 1895.
2	Banstala Khal ..	Junction with Coxali Khal.	Junction with Galghasia River.	4	Ditto.
3	Galghasia River ..	Junction with Banstala Khal.	Junction with Culputtoa River.	5½	Ditto.
4	Culputtoa River ..	Junction with Galghasia River.	Junction with Kundra Gang.	12	Ditto.
5	Kobaduk River ..	Junction with Morichap River.	Junction with Chandkhali Khal.	1	Ditto.
6	Chandkhali Khal ..	Junction with Kobaduk River.	Junction with Minus River.	5	Ditto.
7	Minus River ..	Junction with Chandkhali River.	Junction with Sibsa River.	8	Ditto.

Serial No.	Name of river of channel.	From.	To.	Length miles.	Notification.
1	2	3	4	5	6
8	Sibsa River ..	Junction with Menus River.	Junction with Dhaki River.	1	Notification No. 230, dated the 23rd July 1895.
9	Dhaki River ..	Junction with Sibsa River.	Junction with Bhudder River.	6	Ditto.
10	Chunapuri Khal (now called Chunkuri Khal).	Junction with Bhudder	Junction with Pasur River.	3	Ditto.
11	Kazibacha River ..	Junction with Pasur River at Chalna.	Junction with Baita-ghata Khal.	10	Ditto.

Inner Boat Route.

1	Jamuna River ..	Hasnabad ..	Kaliganj ..	12	Notification No. 230 dated the 23rd July 1895.
2	Coxali Khal ..	Kaliganj ..	Cut No. 1 ..	6	Ditto.
3	Cut No. 1 ..	Coxali Khal ..	Asasuni Khal ..	2½	Ditto.
4	Guntiakhali Khal or Asasuni Khal.	Cut No. 1 ..	Kundra Gang ..	4	Ditto.
5	Culputton River ..	From its junction with Kundra Gang at Asasuni.	Its junction with Morichap.	1	Ditto.
6	Morichap River ..	Its junction with Budh-hata Gang and Culputton River.	Its junction with Kobaduk River.	3	Ditto.
7	Kobaduk River ..	Its junction with Morichap River.	Its junction with Cut No. 2.	2	Ditto.
8	Cut No. 2 ..	Its junction with Kobaduk River.	Its junction with Aga Sibsa.	3	Ditto.
9	Aga Sibsa ..	Its junction with Cut No. 2.	To Soladana ..	11	Ditto.
10	Deluti Gang ..	Its junction with Sibsa opposite Soladana.	Its junction with Bhudder River.	5	Ditto.
11	Bhudder River ..	Its junction with Deluti Gang.	Its junction with 6 Surkhali Kata Khal (now called Bhudder) up to Teligati Khal.	6	Ditto.
12	Teligati Khal ..	Junction with Bhudder River.	Junction with Jhabjhabia River.	1	Ditto.
13	Milemara Gang ..	Junction with Jhabjhabia River.	Junction with Baita-ghata Khal.	1	Ditto.
14	Baitaghata Khal ..	Junction with Milemara Gang.	Junction with Kazibacha River.	5	Ditto.
15	Kazibacha River ..	Junction with Rupsa River at Narankhali.	Junction with Baita-ghata Khal.	4	Ditto.
16	Rupsa River ..	Junction with Kazibacha River at Narankhali.	Junction with Bhairab River at Khulna.		Ditto.
17	Bhairab River (inc uding Alaipur Khal and Bemarta Khal).	Khulna ..	Alaipur and then via Jatrapur to Kochua and junction with Baleswar River.	27	Ditto.
18	Baleswar River ..	From Kochua ..	Pirojpur (Barisal).	7	Ditto.

It is however beyond the resources of a Government to keep pace with nature in a delta. Owing to the silting of the channels where delta forming is in progress, steamers no longer ply through all these channels. In 1918 the normal steamer route from Calcutta was (within the limits of Khulna district) as follows :—

Raymangal,	Malancha,
Soya,	Araibanki,
Beary Khal,	Arpangasia,
Atharobanki,	Shakbaria,
Jaboona,	Bojboja,
Farinchi Khal,	Satbari,
Aura Sipsa,	

(as alternative to the last three rivers Shakbaria, Koyra, Aura Sipsa),

Sipsa,	Chunkuri Khal,
Sutarkhali,	Pasur,
Bhadra,	Kajibacha,
Rupsa and hence to Khulna.	

From Khulna onwards the large steamers bound for Eastern Bengal and Assam pass by the Bhairab and Atharobanki to the Madhumati on the eastern boundary of the district. There is an alternative steamer route known as the Outer steamer route; it is a short cut through the southern Sunderbans between the junction of the Beary Khal and the Raymangal River as far as the mouth of the Chunkuri Khal where it rejoins the main steamer route. It is used in the cold weather mainly when the tides are favourable. As it passes through the depths of the Sunderbans reserved forest not much is known about it; the list of rivers is officially given as Raymangal (proceeding south)—

Jaboona	Kagga Doaneah,
Seebpore Khal,	Kagga,
Malancha,	Morzal,
Numsamudar,	Pussur.

These names differ considerably from the names adopted in the topographical survey of the Sunderbans upon which the existing maps are based. According

to that survey, the names of the rivers would read as follows :—

Raimangal River,	Dobanki Khal.
Salokati Khal.	Kaga River.
Malancha River.	Hansraj River.
Barapanga River.	Hilsamari Khal.
Pasur River.	

These routes have been given in detail as they are not mere departmental or commercial matters, but are true indices to the process of delta formation in the district. In the west of the district where the rivers no longer carry Ganges silt, the routes notified in 1895 are practically identical with those used in 1918. From the Sipsa eastward the influence of the Ganges water, brought through the Gorai and Madhumati, is felt; hence the channels shoal and change. Of the two boats routes notified, the inner boat route is the normal route for merchandise boats through the district; the outer boat route represents an alternative course for large boats which would find difficulty in passing through the smaller channels of the inner route. River action has, of course, had less effect in such channels. Of those notified, only, the Gutiakhali or Asasuni khal and the Bhairab river have undergone material change; both of them are too shallow for any navigation except at high tide. The Chandkhali khal has deteriorated during the last few years; both at its western end, and near its junction with the Menus river it has silted rapidly, and it seems safe to prophecy that it will soon be impassable for large merchandise boats. Fortunately there is an alternative route which leads from the Kobadak less than a mile north of Chandkhali, whence boats can pass either into the Sipsa near Paikgachha via Cut No. 2 or back to the Menus river.

26. Steamer services.—Apart from these routes there are the following lines of steamers plying from Khulna :—

Khulna—Narayanganj via Barisal.
Khulna—Ellachar (Satkhira).
Khulna—Narail.
Khulna—Madaripur.
Khulna—Magura.
Khulna—Boalmari.

The steamer service from Calcutta to Cachar in Assam also touches at Khulna,

and there is also steamer connection between Jhikergachha in Jessore and Kapilmuni on the Kobadak, and between Chingrakhali (Hasanabad) in the 24-Parganas district and Kaliganj. In the east of the district a steamer service plies from Bagerhat to Hularhat in Bakarganj district, touching at Phulhatta, Morrellganj, Fashiatollah, and Rayanda before it finally leaves the district. It is unnecessary to describe the routes in detail, but all steamer stations existing at present have been shown on the $\frac{1}{4}$ " district map attached to this report. This map in conjunction with current steamer service time tables will give adequate information on the local steamer communications in the district.

27. Railways.—A section of the Eastern Bengal Railway, leaving the main line at Dum Dum Junction, connects Khulna with Calcutta. This line passes through Bongaon and Jessore and enters the north of district about 13 miles from Khulna. Within the district there are stations at Bejerdanga, Phultala and Daulatpur. By changing at Bongaon it is possible to join the main line at Ramaghat, thus saving the detour by Dum Dum or Sealdah, but the timings of the trains are at present inconvenient and entail a long wait at Bongaon.

A light railway, connected with Khulna station by a steamer ferry service runs from Rupsa East to Bagerhat. It practically follows the line of the Bhairab and thus taps the most prosperous and advanced area in the district.

28. Roads.—The line of the Bhairab, alluded to above, is marked by the oldest road in the district. In the middle of the 15th century, before the days when Pratapaditya ruled in the Sunderbans, one Khan Jehan Ali described by legend as a soldier saint who obtained a jaighir of Sunderbans land from the King of Gour, entered the district from the north and following the line of the Bhairab, which he crossed at Sen's Bazar, marched with his army to Bagerhat where he founded a great mosque known as the Satgumbaz and built his own tomb which remains with its inscription intact to this day. Tradition relates that he came with a body of 60,000 diggers and built a great road as he marched. Traces of this road are still visible along the line of the Bhairab, and though it has been superseded by the railway from Rupsa East

to Bagerhat which was built for a considerable distance directly along its alignment, from Bagerhat to Satgumbaz mosque, a distance of about three miles, it exists as a well used road. Apart from this ancient route, the roads in the district are few and of only local importance: in a delta area men travel by boats, and do not spend time and money on roads and bridges.

There is a partially metalled road running from Khulna to Jessore and thence to Calcutta; other metalled roads which serve as means of communication throughout the year are the road from Satkhira to Ellar Char Steamer Station, and from Satkhira to Bhomra; this latter road is the main means of communication between Satkhira and Basirhat in the 24-Parganas whence there is railway communication with Calcutta. Apart from the above roads practically every other road in the district can be called at the best a fair weather means of communication, and except in the extreme north and north-west of the district, are liable at any time to breaches from flood water or from the breaking of bridges.

29. Town and markets.—There are three municipalities within the district, namely, Khulna, Satkhira, and Debhata. Khulna is a flourishing though not very large municipality, owing its prosperity to a great extent to the situation of the town as the focus of the water routes to the jute and grain producing districts of Eastern Bengal. Satkhira is a smaller municipality owing its existence very largely to the efforts and influence of the Roy Choudhury family of Satkhira: the provision of water-works in this unhealthy area has been most beneficial, and it is not too much to say that the upkeep of these water-works is the main *raison d'être* of the municipality. Jungle and paddy fields occupy much of its area, and leopards are not infrequently found within its limits. Debhata has the distinction of being almost the smallest municipality in Bengal. Its population in 1921 was only 5,570 as compared with 5,514 in 1881; it is difficult to find a *raison d'être* for the existence and continuance of so small a municipality. Unlike Khulna and Satkhira the third subdivisional headquarters Bagerhat is not a municipality; its local affairs are managed by a Union Committee, one of

the three constituted in the district under the Local Self-Government Act of 1885. The other two were constituted in two of the most advanced areas of the district, Morrellganj and Raruli. Under the new Village Self-Government Act of 1919 numerous Union Boards have been constituted throughout the district. Like Co-operative Banks, they depend for their efficiency upon the existence of an individual member of unusual force of character: if the drains and paths of a village appear to be in good order, it fairly safe to infer that the local Co-operative Bank is working well. It would be possible to divide the important villages and hâts of Khulna district into two classes. The first class would include the older centres of culture or business situated on the banks of the old rivers, such as the Bhairab, Bhadra, and Kobadak: these represent the earliest outposts of settlers and merchants who penetrated the swampy district along the courses of the rivers where their boats could ply and where the high banks were suitable for erection of dwellings.

Examples of these are Senhati, Fakirhat, Chuknagar, Dumuria, Raruli, Tala, etc. They are usually characterised by a resident population of educated men, and may be considered the centres of progress in the district. The second class are the great hâts which have sprung up recently at the confluences of rivers as water-borne trade has increased. They are purely trade centres, far more so than the villages of the former class, but their importance begins and ends with their trade. Their permanent residents are confined to a few shopkeepers and perhaps the agents of the local zamindars, but on the hât days they become the scenes of busiest activity, where thousands of rupees worth of goods change hands in a few hours. Their size and importance is solely due to their situation. It is much easier for traders and villagers to bring goods by river than by road, and for this reason a hât situated at the confluence of two or more rivers invariably does greater business than one situated inland. Examples of this class of hât are Noabanki hât at the confluence of the Noabanki khal and the Kholpetua river, Chalna at the confluence of the Chunkuri khal and the Pasur river, and Bardal on the Kobadak river between the place where the Chandkhalj khal and the Marichap river leave it.

Chapter II.—The Employment of the Land.

STATISTICS OF THE EMPLOYMENT OF THE LAND.

30. **Water.**—Out of a total area of 2,429 square miles for which statistics have been prepared during the present operations, 203 square miles or about 8 per cent., have been returned as water. This considerable figure is to be expected in a deltaic district; perhaps the most useful comment that can be made is to point out that except for a few small jalkars in khas mahals, Government is not deriving any revenue from the great majority of this area. The question of realising jalkar revenue from the Khulna rivers, particularly those situated within the reserved forest, was referred to the Board of Revenue of few years ago, but the proposals were negatived; the question might well be re-opened in the light of the detailed information collected during the present operations. The distribution of water in the various police-stations is shown in the detailed milan khasra statement given in Appendix II. Naturally the water area increases from north to south; the bils in the north of the district are sufficiently shallow to be, to a great extent, divided into holdings where in favourable years bil paddy can be grown. Hence a large portion of these areas have been classified as under crops or as culturable fallow and not as water.

31. **Culturable and unculturable land.**—The land area of the district is classified as follows: for purposes of comparison similar figures for other districts of Bengal have been tabulated:—

Districts.	Percentage of—			
	Area cultivated to total land area.	Area culturable but not cultivated to total land area.	Area unculturable to total land area.	Area cultivated to total culturable.
Khulna ..	78	14	8	85
Midnapore (excluding Sadar West).	78	13	9	85
Dacca ..	77	6	17	92
Bakarganj ..	70	12	18	85
Jessore ..	78	12	10	87

There is a curiously close coincidence between the figures for this district and for the eastern area of Midnapore: the percentage of cultivated area is identical, and there is only one unit difference between the percentages of culturable but not cultivated land and unculturable land. In Dacca and Bakarganj the percentage of unculturable area is consider-

ably greater; probably in both cases a considerable area of forest was included in the statistics but in Khulna there is practically no land of this class outside the reserved forest.

The following statement shows the distribution of cultivated, culturable and unculturable area among the various police-stations; excluding water:—

Thana.	Area cultivated.		Area culturable but not cultivated.		Area unculturable.		Percent- age of cultivat- ed to total cultur- able.	Total of areas in square miles.
	Sq. m.	Per cent.	Sq. m.	Per cent.	Sq. m.	Per cent.		
Kalaroa	73	84	6	7	8	9	92	87
Satkhira	107	79	17	13	11	8	86	135
Tala	80	64	31	25	14	11	72	125
Debhata	31	48	23	36	10	16	57	64
Kaliganj	79	65	24	20	19	15	76	122
Syamnagar	120	74	23	14	20	12	84	163
Asasuni	61	44	67	49	10	7	47	138
Total of Satkhira subdivision	551	66	191	23	92	11	74	834
Phultala	21	81	3	11	2	8	87	26
Daulatpur	23	72	5	16	4	12	82	32
Terakhada	68	88	6	8	3	4	92	77
Dumuria	121	83	16	11	9	6	88	146
Baitaghata	75	89	5	6	4	5	94	84
Paikgachha	183	88	15	7	10	5	92	208
Dacope	91	95	2	2	3	3	98	96
Khulna	25	71	6	17	4	12	80	35
Total of Sadar subdivision	607	86	58	8	39	6	91	704
Sarankhola	46	90	2	4	3	6	96	51
Mollahat	57	84	8	12	3	4	88	68
Kachua	51	85	4	7	5	8	93	60
Fakirhat	42	73	10	17	6	10	81	58
Rampal	160	90	10	6	7	4	94	177
Morrellganj	139	90	10	6	7	4	93	156
Bagerhat	89	75	20	17	9	8	81	118
Total of Bagerhat subdivision	584	85	64	9	40	6	90	688
District Total	1,742	78	313	14	171	8	85	2,226

The salient feature of this statement is the low percentage of cultivated area in Satkhira subdivision as compared with Sadar and Bagerhat. That this is not only due to the great amount of uncultur-

able area there, is clear from the figures showing the percentage of cultivated to total culturable area, which are 74 per cent. in the case of Satkhira, and 91 and 90 respectively in the case of Sadar

and Bagerhat. The deficiency lies mainly in Debhata and Asasuni and can be definitely attributed to the influence of saline water which runs up the channels of the rivers whose head waters are dead, and concentrates in the dreary waste of the Boyra bil. Other areas where the percentage of cultivated to culturable area is low are the semi-urban police-stations of Daulatpur and Khulna, and Fakirhat where the high land on the banks of the Bhairab bears little or no crops. In the southern reclaimed area, *e.g.*, Sarankhola and Rampal, the percentage of cultivated to culturable area is very high.

32. Current fallow.—The areas shown in the milan khasra statement (*vide* Appendix II) under the head of current fallow tell much the same story. Nearly 79,000 acres are shown under this head for Satkhira subdivision against 10,000 for Sadar and 9,000 for Bagerhat; the cause is undoubtedly saline infiltration. It is worth noting that the figures for Satkhira subdivision were collected a year earlier than those for Sadar, and two year earlier than those for Bagerhat, and therefore represent a state of affairs when the district had not yet recovered from the effects of the cyclone of 1919 which broke the embankments and from the scarcity which ensued in 1921. Nevertheless the phenomenon of the decline in cultivation in Satkhira cannot be wholly regarded as temporary; it is the beginning of the economic results of the death of the western rivers.

33. Twice cropped areas.—The twice cropped area in the district is very small, being only 38,849 acres or 3 per cent. of the net cropped area. The following table shows the area in acres of twice cropped land in each police-station; the areas are too small to be conveniently represented in square miles:—

Thana.	Area of Dofasli land
Kalaroa	6,008-57
Satkhira	1,393-55
Tala	10,057-58
Debhata	274-98
Kaliganj	570-34
Shyamnagar	17-55
Asasuni	76-23
Total of Satkhira sub- division	18,398-80

Thana.	Area of Dofasli land.
Phultala	215-01
Daulatpur	478-19
Terakhada	8,072-66
Dumuria	1,177-53
Baitaghata	85-85
Paikgachha	911-34
Dacope	2-31
Khulna	966-21
Total of Sadar sub- division	11,909-10
Mollahat	5,411-84
Sarankhola	83
Kachua	1,598-18
Fakirhat	319-21
Rampal	26-61
Morrellganj	69-83
Bagerhat	1,114-89
Total of Bagerhat sub- division	8,541-39
District Total	38,849-29

The only areas which have an appreciable quantity of twice cropped land are the northern police-stations of Kalaroa, Tala, Satkhira, Terakhada and Mollahat. Throughout the rest of the district, the *aman* paddy is practically the only crop grown.

DISTRIBUTION OF CROPS.

34. Distribution of paddy land.—The staple crop of the district is paddy. Out of an area of 11,15,048 acres under crops, no less than 1,026,146 acres or 92 per cent. are under paddy cultivation. Of this area the great majority amounting to 905,341 acres or 81 per cent., is under

winter rice and of the balance 80,315 or 7 per cent. are under *aus* paddy and 40,490 or 4 per cent. under *boro* paddy.

The following statement shows the distribution of these crops by police-stations :—

Name of thana.	Net cropped area.		Area under <i>aus</i> .			Area under <i>aman</i> .			Area under <i>boro</i> .		
	Acre.	Dec.	Acre.	Dec.	Percentage of net cropped area if exceeding 1 per cent.	Acre.	Dec.	Percentage of net cropped area if exceeding 1 per cent.	Acre.	Dec.	Percentage of net cropped area if exceeding 1 per cent.
1	2	3	4	5	6	7	8	9	10	11	12
Kalaroa	16,137	88	25,722	91	55	16,844	94	26	..	..	..
Satkhira	68,748	82	14,069	78	21	48,325	82	72	..	86	..
Tala	50,987	96	16,780	42	31	21,927	17	13	..	..	..
Debhata	19,648	36	1,453	37	7	16,877	17	86	..	..	..
Kaliganj	50,737	56	3,193	12	6	41,683	47	82	..	..	..
Syanmagar	76,033	64	155	46	..	75,391	44	98	..	..	..
Asasuni	38,838	32	1,442	55	4	34,128	60	88	..	..	..
Phultala	13,632	17	823	22	6	10,077	41	77	..	69	..
Daulatpur	14,881	44	697	41	5	11,677	61	78	1	37	..
Terakhada	43,723	31	1,459	95	3	31,346	59	72	13,365	83	30
Dumuria	77,287	69	3,539	52	4	66,789	69	86	12	82	..
Baitaghata	48,170	78	294	82	..	45,513	84	95	40	45	..
Paikgachha	117,224	61	1,567	11	..	119,962	82	94	..	..	..
Dacopi	58,428	24	7	67	..	57,923	66	96	..	..	..
Khulna	16,135	76	663	89	4	12,154	23	77	177	22	..
Mollahat	36,678	11	3,359	58	9	19,856	62	53	11,437	24	31
Sarankhola	26,333	48	624	96	2	27,836	82	95	..	..	..
Kachua	32,628	62	147	17	..	26,660	83	81	1,800	41	5
Fakirhat	27,320	71	1,519	97	6	17,886	59	65	15,116	89	5
Rampal	102,312	93	311	18	..	96,363	65	94	..	44	..
Morrelliganj	88,914	90	1,221	18	..	81,950	21	91	..	..	..
Bagerhat	56,693	84	1,269	75	2	35,135	43	62	12,136	37	21

The chief *aus* growing areas are the high lands in the north-west of the district mainly falling in police-stations Kalaroa, Tala and Satkhira. The reason for this is, of course, the fact that *aus* paddy is grown during the rains on comparatively high land; such land is mainly found in the north-west of the district where delta building has gone on longest. *Boro* paddy is grown in bils and swamps; hence it is mainly cultivated in the great sweet water bil tracts of Terakhada, Mollahat and Bagerhat police-stations. It is particularly intolerant of salt water, hence the saline bil area of Boyra bil and the bils of recent Sunderban reclamation produce little or none of it. Included in the figures of *boro* paddy is the *raida* variety of bil paddy which is sown with *boro* paddy, but not reaped till the beginning of the cold weather. *Aman* paddy grows throughout the district except on the high lands which are only moist dur-

ing the rains and in the bil tracts where the water is too deep for its cultivation. It flourishes best in the silt laden lands of the Sunderban tracts provided that they are sufficiently well embanked to keep out saline water which damages full grown paddy and is fatal to seedlings. The older lands in the north of the district produce a crop of winter paddy inferior to a good Sunderban crop, but generally satisfactory provided the land is moist till harvest time.

35. Distribution of Minor crops.—

Excepting paddy very little food grain is grown. Wheat, barley, millet, maize and gram hardly exist, but pulses included under the general term kalai are grown as a cold weather crop in the high lands of Kalaroa and Tala and to some extent on the old high banks of the Bhairab and Kobadak rivers. The main varieties of pulse cultivated in this district are matar

or field-pea (*Pisum Arvense*), kesari (*Lathyrus Sativus*) masuri or lentil (*Lens Esculenta*), mash kalai (*Phaseolus Mungo*) and mung (*Phaseolus Radiatus*) of two varieties, light known as sona-mung and dark known as krishna-mung. The same areas produce a winter crop of mustard and rape which is used for manufacture of oil; this crop however is grown less in Kalaroa and more in Rampal than the winter crop of kalai. The only other oil seed grown in the district is that of til, also known as sesamum or gingelly; this is almost confined to the bil areas of Terakhada and Mollahat where it is sown on the edge of the bils after the water has receded and the winter paddy has been reaped. The chief varieties of condiments and spices grown are, chillies, turmeric and dhunia or coriander. They are mainly grown on the high dry lands in north of Tala and Dumuria. The amount of sugarcane grown in the district is negligible from a commercial point of view, and the same applies to cotton, inspite of repeated attempts to grow it, made particularly when the vogue for country-made products ran high in 1921 and 1922. Experiments in growing various kinds of cotton were made in the local agricultural demonstration plot, in the Clay Municipal Garden, and elsewhere in the district, but I think it is now generally admitted even by the most zealous advocate of country-made products, that the pronouncement of Mr. Evans, the late Director of Agriculture, was correct when he stated that there was little prospect of producing in this district a cotton having sufficiently long staple for practical commercial purposes.

Jute is little more successful than cotton; ordinary Khulna jute is usually classed in Calcutta as "rejections". The Agricultural department turned their attention to the improvement of this crop also, and experiments in growing a variety of *Capsularis* named Kakya Bombai and of *Olitorius* named Chinsura Green produced satisfactory results in the experimental garden at Khulna. This plot of ground is however far more naturally suited to jute growing than the majority of the land in the district, and though efforts were made to introduce the improved seed, the results have been sporadic and partially satisfactory at the best. I have however been told recently by the cultivators in the large Khas

Mahal Char Baniari that they have succeeded in producing a very profitable crop from the seeds of the Kakya Bombai strain provided by the Agricultural department; the *Olitorius* strain is reported to be less successful. Taking the district as a whole, only 6,480 acres are under jute, of which the majority is grown in the high land tracts of Mollahat, Satkhira, and Tala. The figure of 513 acres returned for Terakhada is surprisingly low as jute appears to flourish there. The figures for Satkhira and Tala were compiled in the cold weather of 1921-22 and those for Mollahat in 1923-24; for Terakhada alone of the jute producing areas, the figures were compiled in 1922-23, and I am inclined to think that an unfavourable season was responsible for the unexpectedly low return.

Tobacco is grown as a garden crop for home consumption and for sale in small quantities in local hâts. It flourishes only on the raised ground near homesteads, and I do not think that there is a possibility of growing it in sufficient quantities for commercial use.

36. Betel growing areas.—Betel is another garden crop which requires high land for its successful cultivation, and it is only grown, as a rule, where the population of Baruis or hereditary betel growers is fairly considerable. Out of a total of 18,771 members of this caste recorded in the Census of 1921 as inhabiting this district, 10,119 came from the two police-stations of Daulatpur and Bagerhat. Hence it is not surprising to find that out of a total acreage under betel cultivation of 1,335 for the district, 409 acres are in Daulatpur and 202 in Bagerhat. I do not think it is a case of the distribution of caste depending on the suitability of the area for production of their peculiar crop: the crop seems to depend upon the existence of the caste in the locality. A betel garden is an artificial product and can be made a profitable source of income, given skilled labour, on any high ground where there is a fairly rich and non-saline loam. The area of 1,335 acres for the district is slightly higher than the Jessore acreage of 1,208 acres given in Mr. Momen's recent Settlement Report: needless to say there is far more high land suitable for betel gardens in Jessore than in Khulna, and the Khulna figures point to intensive cultivation in a few special localities. The following figures

represent the areas under betel cultivation as found in recent Settlement operations :—

District.	Net cropped area in acres.	Net area under Pan cultivation in acres.	Percentage of net cropped area.
Dacca ..	1,304,861	2,922	.223
Mymensingh ..	2,660,816	1,503	.056
Faridpur ..	1,127,458	5,889	.522
Bakarganj ..	1,553,376	1,332	.085
Tippera ..	1,302,460	551	.042
Noakhali ..	719,957	692	.096
Rajshahi ..	1,238,514	965	.077
Jessore ..	1,410,467	1,208	.085
Khulna ..	1,115,048	1,335	.119

37. Palms of economic value.—

Supari or areca nut (*Areca Catechu*) is grown on almost all homestead land, but flourishes best in the older villages sites. It is rarely grown on land entirely devoted to its cultivation; one reason for this is said to be the prevalence of cyclones and cyclonic winds in the district which are especially fatal to this tall slender tree. The last cyclone (*i.e.*, that of 1919) did great damage to the trees in this district from which they have not yet recovered. According to the instruction of the Director of Statistics areas devoted to the cultivation of this tree are shown under the general heading "Other drugs and narcotics". It is therefore impossible to give the exact area devoted to this tree alone, but it may be presumed that the majority of the 5,344 acres shown under the above heading represents supari cultivation.

The date palm (*Phoenix Sylvestris*) is cultivated in the north of the district for the purpose of sugar manufacture. Like the supari tree, this palm also grows more frequently in small numbers round homesteads or cultivated lands than in compact groves or gardens solely devoted to its cultivation. In our statistics table it is classed, under the Director of Statistics rules, as "Sugar other than sugarcane", and it

may be safely said that the whole area of 5,661 acres recorded under that heading refers to land on which this tree is grown. As is to be expected, the northern police-stations of Satkhira, Kalaroa and Dumuria show the largest acreage.

Besides the supari and the date palms, two other palm trees, the cocoanut (*Cocos Nucifera*) and the palmyra palm (*Borassus Flabelliformis*) grow commonly in the district. No separate statistics have been collected in respect of these trees; the latter is of minor economic importance, and the former, though valuable for a number of purposes, is not grown on a commercial scale for oil, and hence, under orders of Government issued in 1922, no separate acreage is recorded in respect of it.

38. **Fruits and vegetables.**—Fruits and vegetables cover an area of 12,677 and 21,620 acres respectively. The mango is probably the commonest fruit tree in the district, but the fruit is of poor quality, having a decided stringy consistency and a flavour reminiscent of turpentine. The litchi (*Nephelium Litchi*) grows well wherever it is planted and bears a good crop of fruit for a short time in May. The plantain (*Musa Sapientum*) is found in every homestead, even in the reclaimed Sunderban area where fruit is generally scarce. It is however of inferior quality; the commonest variety is large and insipid and contains a number of seeds. Jack fruit (*Artocarpus Integrifolia*) grows wherever the mango is found; its fruit is relished here as elsewhere in Bengal. Pineapples (*Ananas Sativa*) flourish well in the extreme north of the district, particularly in Phultala police-station: they do not grow in the salt marshy tracts. Among other fruit trees which are found sporadically and whose fruit is generally utilized for human consumption are bel tree (*Aegle Marmelos*), papaya (*Carica Arborea*), pomelo (*Citrus Decumana*), kamranga (*Averrhoa Carambola*) and guava (*Psidium Guajava*). The fruit of the ber tree (*Zizyphus Jujuba*) is commonly used for making a condiment called "acchar". Melons are grown where the soil is suitable, particularly on the sandy chars near the Madhumati.

Potatoes are grown sporadically throughout the district, but the acreage under this crop is only 509 acres. This

might well be increased for this tuber appears to grow well on all high land. Its introduction into the district is comparatively recent, and it has not yet overcome the conservative tendencies of the cultivators. The area on which onions are grown is even less; the acreage under this vegetable being only 371 acres, the majority of which is in the high lands of Kalaroa, Satkhira, Tala and Dumuria. Other vegetables occupy an acreage of 21,620 acres, of which nearly a quarter falls in Bagerhat police-station alone: other areas where vegetables grow well are Morrellganj, Fakirhat, Kachua, Baitghata, Satkhira and Kalaroa.

The main vegetables grown in the district are brinjals (*Solanum*), varieties of kacchu [of which the arum (*Colocasia Antiquorum*), the ol kacchu (*Trifolium Trilobatum*) and the man kacchu (*Alocasia Indica*) are commonest], beans and gourds of several species including the following:—

Potol (*Trichosanthes Dioica*).

Kaddu (*Cucurbita Pepo*).

Ucche, Karela and Kakrol (varieties of *Momordica*).

Lau (*Lagenaria Vulgaris*).

Jhinga (*Luffa Acutangula*).

Mitha Kumra (*Cucurbita Maxima*).

Chal Kumra (*Benincasa Cerifera*).

Sasa or Khira (*Cucumis Sativus*).

An amaranth (*Amaranthus Gangeticus*), known as danta, is grown for the sake of its edible stem and in the north of the district the sweet potato (*Ipomoea Batatas*) is cultivated. The horse radish tree or sagina (*Moringa Pterospermum*) merits special mention both for the fact that its pods are largely cooked and eaten as vegetables and also for the beauty of its masses of white flowers which, with the dazzling red of the simul tree, are harbingers of spring.

39. Inedible products.—The main inedible products of the district are timber, bamboos, thatching grass and golpatta. The main source of timber and golpatta in the district is the reserved forest; some account of these products is given elsewhere. Outside the reserved forest use is made of the following trees for local industry, e.g., for fashioning ploughs, house rafters and rough furniture—babul

(*Acacia Arabica*), jack fruit (*Artocarpus Integrifolia*), simul (*Bombax Malabaricum*), mango (*Spondias Mangifera*) and palmyra palm (*Borassus Flabelliformis*); there is however no trade in these timbers on a large commercial scale. Bamboos are common in the drier and non-saline areas, where every household has its clump: in the southern areas they are rare or absent. Thatching grass grows well on high land in the north of the district; it is intolerant of salt and swamp and hence, like the bamboo, is absent from the newer reclaimed area. The main reeds used for commercial purposes are the hogla (*Typha*) and nal (*Phragmites Karka*). The former is the bull-rush and the latter is a long tough aquatic grass which grows in swamps: they are both used for making matting, or mat walls of houses: nal is also used for making baskets. In the Boyra bil and other large bils a grass or sedge with trigonous leaf grows commonly; it is known as “mele” grass and is valuable for making durable mats.

AGRICULTURE.

40. Cultivation of paddy.—The staple crop of the district is paddy; its cultivation falls into four distinct types as follows:—

(A) In the high lands of the north of the district (*a*) *aman* paddy and (*b*) *aus* paddy.

(B) In the bil areas of the north and central parts.

(C) In the reclaimed Sunderban lands.

41. Aman and aus paddy.—Cultivation of type A whether of *aman* or *aus* paddy differs in no respect from the cultivation of paddy in normal Bengal districts, and it seems unnecessary to describe in detail the process which may be found more or less elaborated in every Settlement report or gazetteer. The local varieties of paddy in this district are, as elsewhere, extremely numerous, and a list of all available kinds would be as unending as a modern florist's catalogue of chrysanthemums or tea-roses. At a recent agricultural exhibition in Khulna, the following collection which may be taken as typical was sent by the

Manager of the Laha Estate at Morrell-ganj :—

Magai Laksmibilas.	Haldi Gottial.
Talmugur.	Marichbonta.
Begunbichi.	Lona Kharchi.
Ghunshi.	Kerengel.
Gandha Kashiry.	Akandi.
Bahari.	Bansphul.
Dariakuchee.	Girbee.
Bainsmugur.	Khirarjali.
Kalamanik.	Khirkon.
Baleswar.	Matichal.
Thormosra.	Bamankhir.
Char Baleswar.	Magurpankhi.
Dudhluchi.	Huglee.
Pankhira.	Lalgotal.
Lakma.	Nilkamal.
Baiyarbagh.	Chor Birindi.
Laksmibilash.	Machranga.
• Dhalagota.	Kalagota.

42. **Bil paddy.**—In the great bil areas of the centre and north of the district wherever the water is not too salt, there is a special form of paddy cultivation known as the cultivation of *boro* and *raida* paddy. As the bils dry up in January seeds are sown in seed beds prepared in the mud left by the retreating water. At the same time fields are prepared by heaping together the vegetable debris of the bil into ridges enclosing tracts of mud and shallow water; into these fields the seedlings are transplanted when about twelve inches high. No ploughing is done; the ground is simply prepared by freeing it of the water weeds which are used to build up the ridges. The *boro* seedlings ripen in May and are then cut, but the *raida* goes on growing, rising with the rising water till it is ready for harvest in November or December. The proportion of seed sown is only $\frac{1}{4}$ of *raida* to $\frac{3}{4}$ of *boro*, but the outturn of crop is practically equal. The two combined crops produce not less than 30 maunds of paddy to the acre in a favourable season.

North of Bagerhat mainly in the Mollahat bil area a type of paddy known as "kurmani" is grown. When the deep water of the bils dries up in March and April, the seeds and marsh vegetation are burnt and the soil is worked with a spade. The paddy seed is then sown broadcast and is ready for harvest in

September or October. The produce of an acre of land in a favourable season is from 15 to 20 maunds of paddy.

43. **Reclamation of Sunderbans paddy land.**—Cultivation in the reclaimed Sunderbans areas begins with reclamation; reclamation consists of transforming into fertile land a muddy saline tract, interspersed with channels, and darkened by a growth of trees, more or less valuable in themselves, but precluding the growth of all other vegetation save a few species of rank under shrubs. At present owing to the policy of conserving the forest produce by reservation of the forest under the Forest department, no land is available for reclamation in this district nor has any considerable reclamation been undertaken since the deforesting of Lots 216, 224, 225 and 240 about 35 years ago. As however so large an area of the district consists of reclaimed land and this reclamation has been so important a factor in the agriculture of the district, I think it needs little apology for inserting verbatim the accompanying vivid account of the process by Ram Sankar Sen who saw it with his own eyes at a time (1873) when it was in full swing.

44. **Rám Sanker Sen's description.**—As soon as a Sunderban grant is settled with an applicant called talukdar, the land is apportioned by him amongst subordinate tenants called hawaladars, who undertake the clearance.

The talukdar advances money as takavi, which in some abads is repaid without interest in small instalments extending over a number of years. In others, where the grantee has capital and wants to see the clearance progressing rapidly, the amount thus laid out is never taken back. The takavi thus given varies from Rs. 100 to 300 for every 100 bighas of jungle land.

The hawaladars then engage men in gangs, headed over by a dafadar, who is paid at the rate of Rs. 7 or 8 per month. There are two seasons in which jungle clearance is undertaken; the first begins in January and ends in March, extending over two months, the second is a brief one, from 5th November to about the same date in December, the working hours being from 7 A.M. to 5 P.M. After the morning meal (*nashita*), the explorers, armed with bill-books (*das*) and axes, sally forth from their boats, come back for the midday meal, after which they go out again and return before dusk.

In each gang of 10 or 15 cutters, there is a *faqir*, who presides over their safety, for he is supposed to exercise a supernatural influence over tigers and wild beasts—a hallucination of which they are sometimes wofully disabused by the clean taking off of some of their party by tigers. After the trees have been felled, fire is given in March to the branches which have been lopped off, but the trunks remain on the ground until removed in the month of June by *bawalis* (wood-cutters).

After the land has been thus cleared, a spot is selected and paddy seed is spread on it in that month without any other process than that of scratching the virgin soil by means of a single-toothed scraper (*achra*) cut out of some twig of wood.

From the 15th July to the end of October, when the soil has been saturated and softened by rain as well as by the tidal water, transplanting from the seed-bed goes on by means of a wooden peg (*gochia*) which is driven into the soil with the left hand, while a handful of the seedlings is stuck into the hole with the right. The transplanting thus done, the explorer leaves his fields and returns home. During his absence, they are watched over by men called *shikaris*, who are armed with guns, and who employ themselves in driving away wild animals and in killing them if possible. In Agran the cultivator comes once to have a view of his field in order to calculate upon the time when his crop will be fit for the scythe. In Pous (15th December) he returns again with a gang of *dawals* (grain-cutters) who flock from North Jessore, Nadia, Faridpur, and Pabna, and who cut away the upper half, leaving the stubble standing on the field to service as fuel for fire and as a manuring agency in the ensuing year. These take 1/5th share of the crop after treading out the corn from the sheaves. Fever and storms may prevent the planting of the first year's crop, when the cultivator returns home disappointed.

In the second year the branches which have sprung up at the roots of the stumps still standing on the fields and other jungle which might have grown are cut down and fire is given in March as before. The same process of spreading seeds in a nursery cleared by means of the scraper (*achra*) is repeated and transplanting by the peg-driving system still continues. This process is carried on for nearly five years, after which the

land having been thoroughly cleared admits of a plough being driven over it, although a harrow is not admissible before the tenth year on account of the roots and stumps which render the soil uneven, and which cannot be got rid of without repeated fires.

The first *dhan* sown is the *ghunshee*, a species of short and flat *aman*. During the various stages of its growth it is subject to constant ravages from wild beasts. The rhinoceros, the wild boar, buffalo, and deer injure the crop at all times from the seed-bed to its ripe state, while the monkey eats up the ears in the embryo. Flights of small birds known as *baloe* and *orra* pick out the grain in ear.

If the area cleared which has fallen to the share of a *raiyat* be too large for him to manage it is sub-let to others, who are either *doalis*, *i.e.*, those who having a settled home at a distance make a temporary sort of abode in the clearance, or to *pattanias*, *i.e.*, those who have no residence in the *abad*, but come to raise the crop for a year. For the first four or five years all these have to pay no rent, as the chief object is to keep the land clear of jungle.

I have omitted to mention that after the first clearance of the dense forest jungle the *nal* reed begins to spring up, and if neglected threatens to undo all the labor hitherto undergone. This new pest has therefore to be kept down with a firm and resolute hand until it is totally killed by constant and repeated uprootings. Instances are not wanting in which want of care in this respect has marred the labor of years and made clearances revert to jungle again. For, as regards forest jungle, there is an end of it when once cut down, but the case is quite different with the *nal* reed, which springs up with quadruple density after the first cutting, a fact which renders the explorer more afraid of the latter than of the former. The expenses of clearing forest jungle are estimated at Rs. 4, and of *nal* jungle at Rs. 2 per *bigha*.

The yield during the first seven years is abundant, being 13½ maunds a standard *bigha*, after which the fields take an average turn.

From the fifth year rent begins to be levied, being two annas at the first, and then rising in a graduated scale to Rs. 1-4 after the 15th year. Some *abads* levy no rent during the first three years

only. The above rates are for jungle-boori or abadkari raiyats. Tenants-at-will, who have had nothing to do with the clearances, pay at Rs. 1·8 per bigha at the maximum.

As the creeks which intersect the Sunderbans send forth their water to the large rivers, so there are numerous khals communicating with these creeks, which run far into the midst of the abads, the damming up of which is an important process in the reclamation scheme. The expenses are all borne by the talukdar, and the dams are erected in Kartik and Agran (November) in order to prevent the tides running up laden with salt water.

The method of erecting dams is somewhat peculiar, and may be here described. A quantity of nal and other reeds and creepers are heaped up over a bedding of twigs 8 or 9 feet long gathered from the jungle, over which a coating of earth is placed and trodden down. This compact mass is rolled up into a cylinder, when it takes the appearance of the trunk of a tree. When the tide has receded, a number of these cylinders are rolled down into the bed of the khal one over the other until the dam is on a level with the bank. A sluice is, however, erected for the egress of water from inland, for which purpose the trunk of a tal tree is sawn asunder, scooped out, rejoined, and placed below at right angles to the dam. A stopper made of a bundle of hay serves to close up the outer mouth of this conduit when the tide sets in, which is removed at ebb in order to allow the bil water to run out. This process is known as the hateabandi.

In April and May when the brackish water driven down by the rain and floods from the higher soils begins to give place to sweet water, these dams are broken up for the purpose of allowing it to run in.

So long as the cultivator does not require the services of his cattle in the abads, he lives on tongs, which are temporary sheds with a gable roof raised in the midst of the field, and built on platforms made of the nal reed. These temporary watch-towers are generally two-storied, the first floor, on which stands the sojourner's mud hearth, being about a man's height from the ground. In the second or uppermost storey, which is six feet above the first, is his bed-room, beyond the reach of the tiger which prowls beneath. The ascent is by means

of slender pieces of wood fixed horizontally to the posts at long distances which serve as steps. The total height of these sheds is about 15 feet from the ground, the thatch being made up of gol leaf.

When the clearance is sufficiently advanced, and the cultivator has need of his plough and yoke, he thinks of settling down in the place. A cowshed is the first indication of this desire, and as the land begins gradually to become raised by the spread of cowdung and the refuse fodder, he surrounds it with a ditch, on the sides of which he plants the bharanda (castor-oil plant), the plantain, and other shrubs of rapid growth. A family house with a kitchen shed now springs up, and in this manner the nucleus of a village is formed, although from the holdings being larger than usual, and from the sparseness of the population, the houses are wider apart.

As years roll on, the raiyat covers his tenement with other profitable trees. The areca and cocoa are planted beneath the plantain; the date is first introduced, after which it propagates from the seed, and the tal shoots up of itself from the seeds thrown away by the first sojourners after the sap has been sucked from the fruit. The bamboo also finds a place in the third or fourth year, but generally it has had no footing yet, as its growth is not so rapid here. The jute, which is cultivated in very small plots adjoining the homestead, scarcely suffices for domestic use. And thus at the end of the 15th year the Sunderban colony standing on the brink of a broad creek is a thriving village skirted by the graceful areca and cocoa in all the beauty of luxuriant growth, and a forest of plantains of gigantic size beneath which these young palms delight to flourish.

45. Embankments and sluices.—After the land has been reclaimed success of cultivation of a Sunderban abad depends upon three factors, firstly the maintenance of the embankments and sluices to prevent ingress of saline water and to ensure proper drainage, secondly an adequate rainfall well distributed till the end of the month of October, and thirdly the absence of severe flood or storm during the cultivating season. The importance of the latter factor lies in the fact that a breach of the embankments, caused by flood or storm, will give ingress to such a rush of water that the growing plants will inevitably be much damaged if the

water be fresh and irretrievably ruined if it be saline. The necessity of well distributed rainfall lies in the fact that however well the embankments and dams be constructed, some percolation of salt water is inevitable. Very common causes of such percolation are the holes made in the embankments by the large salt water crabs of the Sundérbans; such holes are locally known and feared as "gogs". Again if a strong wind blows when spring tides are at their height, the resulting wavelets dash over the embankments and cause a considerable accumulation of salt water in the interior. Salt water which enters by the two methods described above damages the crop, but is not a serious menace if there is sufficient rain to ensure an admixture of fresh water with the salt.

As regards the embankments and dams, they are nowadays the crux of Sunderban cultivation. It is clear from the above account of Ram Sankar Sen that in his day embankment work though important was not of such vital moment as it is to-day in saline areas. There are two good reasons for this; firstly as described above the silting up of the western effluents of the Ganges and the curtailment of spill area by embankments has added considerably to the salinity of the water in the east and centre of the district; secondly Ram Sankar Sen derived his experience mainly from the Sunderbans of Bagerhat subdivision where even to this day the fresh water of the Ganges brought through the Gorai and Madhumati-Baleswar renders protection from saline inundation of less moment than in the rest of the district. The protective work of an estate falls into three parts, viz.—

- (i) Construction of marginal embankments.
- (ii) Construction of cross embankments.
- (iii) Provision of sluices.

Marginal embankments vary in size according to the salinity of the water and the size and strength of the stream from which the land requires protection. Where the water is usually sweet or only brackish, *e.g.*, throughout the area watered by the Madhumati-Baleswar—and in the upper reaches of other rivers, small embankments up to two feet high

are sufficient. These are locally known as "patharis" in the east of the district. Where however the water is salt either throughout the year or at all times except in the height of the rains, stronger and higher embankments are required. These vary from about two feet high at the edge of small khals to earthen ramparts eight feet high, fortified by bamboos in areas where the rivers are swift and strong. The usual custom in the Sunderbans is for the tenants to maintain the embankments by their own labour, receiving if necessary loans from their landlords. Other material help is given by the landlords in the shape of organising the labour; it is not unusual for a good deal of unofficial pressure to be put on the shirkers by the landlords' burkandazes, but little complaint is ever made in this respect for the people realise that the work is for the common good. In some estates, however, the landlords have taken upon themselves the whole responsibility for the maintenance of the embankments, and in return levy a substantial *quid pro quo* from the tenants either in the form of enhanced rents or of a special embankment cess (বীথ খরচ). The usual time for embankment work is November and December; the water is low then, but still retains some admixture of the rains freshet. It is universally believed that when the water is thoroughly saline, *i.e.*, in February and March, the earthwork will not bind properly.

Cross embankments are found in many of the larger estates. In such estates it is customary for the landlord to lease out large blocks of land to a substantial middle man, known as a gantidar who settles cultivating tenants on his block of land or "ganti". The interest of each gantidar is therefore confined to a particular part of the estate, and he usually concert measures with his tenants for embanking his own ganti. Obviously if one out of several gantidars were to neglect his marginal embankments, the inrush of salt water would ruin the lands of all of them. To prevent this, cross-embankments are made by each gantidar, functioning, like the bulkheads of a vessel, as a means of localising the inrush of water. These cross-embankments are smaller than the marginal embankments for the force of the water inside the margins is, of course, less than that of the rivers current. Finally there is the question of damming the mouths of the numerous

khals which intersect reclaimed Sunderban land and of providing means for draining off the water accumulated by flood or rain in the interior. The damming of the mouths of the khals is undertaken in November and December at the same time as embankment work is done, and it is surprising how wide and swift a khal can be effectually blocked by the simple process of piling earth at its mouth. These khals are the natural drainage channels of the water which accumulates in the interior depressions of deltaic land, and it is necessary to provide outlets for this drainage. Experience has proved that the force of a stream draining through a sluice set in the embankment at the mouth of a large khal gradually wears away an embankment which would resist the pressure of confined water. It is therefore customary to cut a small by-channel called a "goya", which leads off the main khal and to set a sluice at its mouth. Sluices are of three main types—

- (a) Brick and concrete.
- (b) Teakwood box type.
- (c) Natural tree trunk.

The former kind are the most effective and enduring; but they are expensive to erect, and are therefore beyond the means of most Sunderban landlords in this district. They are more common however in the 24 Parganas district, where the lessees under the various Waste Land rules are in many cases well-to-do inhabitants of Calcutta. Teakwood sluices take the form of a long and somewhat narrow box open at one end and provided at the other end with a swinging lid, arranged to open on pressure from within and to close on pressure from without. This box is set lid outwards, at the mouth of the goya, and serves to drain out the water from the interior at low tide and to resist the pressure of the rising tide outside. A sluice of this type costs from 400 to 600 rupees.

Tree trunk sluices are usually made of the "bain" tree (*Avicennia Officinalis*). The heart wood of this tree naturally decays faster than the outer part, and leaves a hollow shell one to two feet in diameter. This is provided with a lid at one end and used in identically the same way as a teakwood box sluice. They have however a much shorter life, usually of but one or two seasons, after

which they require replacement. They cost from 60 to 80 rupees, in a market adjoining the Sunderbans.

46. Cultivation in the Sunderbans—

The cultivating season in the Sunderbans does not begin till July; many of the raiyats have lands further north, and it is not until the cultivation there is at an end that they proceed to their Sunderban lands. Here they erect temporary houses in which they live till ploughing and transplanting of seedlings is over. This takes place as late as September, and the raiyat then returns to his home in the north where he enjoys a month or two of leisure till his *aman* crop is ready there. This is reaped by the middle of December, and he then once more journeys southward in time for the reaping season which falls in January in the Sunderbans. Many tenants also have permanent houses in the Sunderban abads, but these are generally a poorer class who have migrated, bag and baggage, from the north to make a permanent home among the privations and the fertility of the Sunderbans. A few acres will not tempt a man to this sort of life; hence it is almost the universal rule in the Sunderbans for holdings to run large: the man who cultivates five acres in the north will cultivate fifty in the south. But when the crops ripen, the raiyat cannot cope single-handed with the task of reaping them, and he has to turn for help to the labourers termed *dawals* who throng to the Sunderbans like hop-pickers to Kent, when the harvest is at hand. With their help the ample crop is reaped: the majority is sold to *beparis* or dealers unless, as often happens, it is already pledged for a cash advance to meet the expenses of a wedding ceremony or litigation. These *beparis* collect the grain in boats and take it for sale in the great markets of the north. The raiyat reserves for himself provision of food and seed corn, and if he holds his land on produce paying tenure, he also retains the amount stipulated to be paid to his landlord, whose agents appear at this season to collect their dues.

All rice in normal Sunderban abads is grown from transplanted seedlings; broadcast rice is grown only in very marshy areas. The procedure does not differ in any material detail from that adopted for rice cultivation elsewhere: the *sine qua non* is proper drainage of surplus water and exclusion of salt from

the land. When these conditions are attained, the produce of the silt covered land easily surpasses ordinary crops. The following figures represent the expenses and profits of cultivation of an acre of Sunderban paddy:—

	Rs.		Rs. A.
Produce of 35 maunds of paddy at Rs. 3 per maund ..	105	Cost of seeds ..	6 0
Straw ..	5	Labour—	
		(i) Ploughing, 25 men at annas 12 ..	18 12
		(ii) Transplanting, 10 men at annas 12 ..	7 8
		(iii) Weeding, 5 men at Re. 1 ..	5 0
		(iv) Harvesting and threshing ..	15 0
		Rent and cess ..	4 12
		Incidental expenses ..	3 0
Total ..	110	Total ..	60 0

giving a clear profit of Rs. 50 per acre.

47. **Betel cultivation.**—Apart from paddy cultivation, the only other form of cultivation which can in any sense be termed a special feature of the economic life of the district is the cultivation of the betel vine. As pointed out above, the percentage of the net cropped area of this district which is under betel cultivation considerably exceeds that of all neighbouring districts, except Dacca and Faridpur. Two varieties are grown, termed respectively *mitha* or sweet pan and *jhal* or pungent pan. The former grows mainly in Sadar and Satkhira subdivisions and the latter in Bagerhat. The plants are perennial and have a prolific life period of some fifteen years in the best soil and from six to ten in ordinary soil: they are grown on highland where the soil is enriched by vegetable detritus from neighbouring trees whose shade favours the cultivation. A supply of nitrogenous manure is necessary to maintain a plentiful supply of healthy leaves. The garden is prepared by raising the land to a level which precludes any chance of flooding or accumulation of stagnant water. It is then surrounded by bamboo posts to a height of some six or seven feet and a light roofing of jute sticks and thatching grass is constructed on the bamboos; a fencing of bamboo slips completes the enclosure or “baraz” as it is termed. The object of the enclosure is to protect the plants from extremes of temperature and from the violence of high winds. The plants are propagated from cuttings twelve to eighteen

inches long, planted in the rainy season to a depth of two inches below the soil at intervals of six inches. After the cuttings strike, they are furnished with supports on which they grow till they reach the roof; they are then bent down and trained downwards and upwards again according to their growth. The roots are earthed up in ridges and enriched by powdered oil cake. When the plant is in full leaf, it can be plucked twice a month, but plucking is regulated to some extent by the state of the market.

The area under pan cultivation is usually reckoned in standard bighas which are approximately three to the acre. A bigha of land can produce up to 20 lakhs of leaves a year; the cost of its cultivation can be roughly estimated as follows:—

1st Year—	Rs.
Cost of preparing ground ..	80
Cost of enclosure and supports—	
Bamboos	65
Straw	20
Rope	4
Supports	15
Labour	30
Cost of planting ..	
Cutting, say	2
Labour	25
Manure	10
Rent of land	4
Total	255

2nd year.—The plants are now in bearing and require considerable skilled care and attention—

	Rs.
Skilled labour for training the plants, manuring the soil and effecting structural repairs to the baraz ..	300
Unskilled labour	50
Straw for roof	15
Other materials for repairing the baraz ..	40
Manure	50
Rent	4
Total	459

The total expenditure thus comes to Rs. 714 for the first two years and thereafter about Rs. 450 annually.

The garden comes into bearing during the second year; its produce is reckoned by the following measure :—

4 leaves	= 1 ganda,
20 gandas	= 1 pan.
64 pans or 5,120 leaves	= 1 kuri, which sells at Rs. 4.

The average annual yield of one bigha of land is, as stated above, 20,00,000 leaves or roughly 391 kuris, the price of which is Rs. 1,564. Taking the total outlay for the first two years to be Rs. 714, the net profit, exclusive of interest on outlay, will be Rs. 850 at the end of the second year, and thereafter about Rs. 1,114 annually. Pan is exported from the district to Calcutta through middlemen, who realise there about double the price they pay for it locally. The trade is therefore a lucrative one, but the quantity of leaves so exported is reported to be small.

FISHERIES.

48. **Export trade of fish.**—Khulna's net work of rivers and expanse of bils teem with fish, and from the earliest times the occupation of a large number of the population has been the catching of the fish which form a staple article of diet in the district. Improvement of communication by steamer and railroad and the introduction of a supply of ice has resulted in the establishment of a large export trade of fresh fish; the Calcutta fish markets are largely supplied with Khulna produce. There is also a considerable trade in dried fish, which is exported to areas, such as Chittagong and Burma where this form of diet is used.

49. **Sea fishery.**—The fisheries of the district may be divided into sea, river, bil and tank fishery. The sea fishery is conducted mainly by fishermen from Chittagong, who come annually to two places on the sea coast: one at the mouth of the Pasur and the other at the mouth of the Bangra river in the month of November, and remain there till the end of February, the period of their stay practically coinciding with the prevalence of the north wind, for only when the north wind blows can they safely venture out to sea. They establish colonies at these places, building small huts and

marking off extensive drying grounds on the sand. Small but deep khals are used as anchorages for their boats, which have a capacity of some five hundred maunds, and are manned by about eight rowers and a helmsman. Their system of fishery is to proceed with large pocket shape nets to favourable shallows about nine miles from the coast where they affix the nets to long poles in a few fathoms of water. After one complete change of tide, ebb, and flow, the nets are taken up and the produce brought back to the drying ground, where they are spread out in the sun till thoroughly dry and are then transported by carrier boats mainly to Chittagong where there is the greatest demand for dried fish. The usual business arrangement is for a fish merchant in Chittagong to advance a sum say Rs. 500 to a contractor, who remains at the fishery and exports fish to the value of this advance to the merchant in Chittagong, keeping as his profit the value of such fish as he catches over and above the stipulated sum. The merchant and the contractor are both known as "bardars" and the fishermen who are employed by the latter are known as "gafurs". The pay of the latter varies from Rs. 30 to Rs. 70 for three months work. The fish is either sent in carrier boats by the contractor to the merchant or is supplied on the spot to an agent of the latter who arranges for the transport to Chittagong. In an average year the price of dried fish is from Rs. 10 to Rs. 12 per maund according to quality, if delivered on the spot, and about twice the price if delivered in Chittagong. Besides the Chittagong fishermen, Mugs visit the coast mainly for the dry shrimp trade, and a small party of Chinamen usually came annually for the purpose of obtaining the Chinese delicacy, sharks fins, which they export via Calcutta to Hangkow where they fetch the equivalent of about sixty rupees per maund.

The following fish are taken at the coastal fisheries :—

Carcharias Limbatus.

Zygæna Blochii.

These two sharks are commonly taken in the fishermen's nets. The latter is the hammer-headed shark, whose fins are dried and exported to Hangkow.

Pristis Zyrson vern: hangar.

Pristis Cuspidatus vern: ashia.

These are two saw-fish: their snouts are produced into long toothed processes, which are capable of inflicting very serious wounds on persons approaching them in the water.

Rhinobatus Halavi.

Rhinobatus Punctatus.

Narcine Timlei.

Astrape Dipterygia vern: dewa.

Trygon Sephen.

Trygon Varnak.

Trygon Zugei.

Petroplatea Micrura vern: phodomon.

These are all rays or skates. *Narcine Timlei* and *Astrape Dipterygia* are the well known electric rays which are capable of inflicting electric shocks by means of organs situated on the side of the head. The genus *Trygon* includes the whip rays.

Chirocentrus Dorab.

Pellona Megaloptera

Raconda Russelliana.

Chatoessus Chacunda.

Engraulis Tati.

Engraulis Parava vern: fessa.

Coilia Dussumieri vern: "olua", "amadi".

Dussumieria Acuta.

Harpodon Nehereus.

This is the well known bombay duck or "bummalo" fish. It is usually sold dry for eating with curry; when fresh, it is among the best fish for the table, but it is extremely perishable, it is rarely found fresh in any market away from the coast. Enormous numbers of these fish are caught off the mouth of the Pasur river.

Belone Choram vern: "tutia".

Therapon Jarhua.

Pristipoma Maculatum.

Scatophagus Argus vern: rup chanda.

Drepane Punctata vern: Nanda.

Chrysophrys Datnia vern: datina. Quantities of this fish are caught on rods and lines close to the shore at the fishing villages.

Kurtus Indicus.

Polynemus Paradiseus.

This is the tapsi or mango fish, which ascends the rivers in the spring

and is considered among the best of table fish.

Polynemus Tetradaclylus vern: tera bhangon.

Polynemus Sextarius.

Sciaena Semiluctuosa vern: bhola.

Trichiurus Haumela.

Trichiurus Savala.

These are the long flat sided ribbon fish known as "churi" by the fishermen from their resemblance to a knife blade. They form a very considerable proportion of the catch on the coast; their shape makes them easy to dry.

Caranx Carangus.

Caranx Rottleri.

Stromateus Cinereus vern: chanda.

This fish is the pomfret, esteemed as a great delicacy for the table.

Cymbium Kuhl. This fish is one of the seer fishes which are well known delicacies in Madras and other parts of India. It is not common off the coast of Khulna, but a few are caught among other commoner fish.

Bregmaceros Macclellandi.

Triacanthus Brevirostris.

Tetrodon Patoca.

Tetrodon Oblongus.

The two latter are globe fish, useless for eating, but remarkable for their power of distending their bodies into the shape of a globe.

50. River fishery.—The river fishery of Khulna district covers an extensive area from the sweet water rivers in the north of the district to the estuarine rivers near the coast, yet there is little distinction in the fishes, most of whom range practically throughout, certain species being more common in the north and others in the southern salt water.

The following list of fishes is representative of the species found in these rivers: *Carcharias Gangeticus* vern: kamot.

This is the dreaded river shark, more feared, where it occurs than the crocodile. It attacks with a rush, often cleanly severing a man's arm or leg, and leaving its victim to bleed to death unless immediate help is obtained. The little bamboo enclosures which are seen along the edge of the Bhairab, where this shark abounds, are erected for the purpose of making river bathing safe.

Amphiprion Kuchia vern: kuchia,
Muraenesox Talabon vern: kytee
 and *Muraenesox* Cinereus vern: bogi
 are the commonest eels found in the
 rivers.

The Siluridae or catfish are represented by many species, all of which are edible and some extremely palatable. They are mostly bottom feeders and delight in muddy water. The following are the common forms: *Plotosus* Canius vern: kanmagur. This is the dreaded estuarine fish, whose pectoral spines are charged with an irritant poison. A man wounded by these spines suffers agonising pain for about twenty hours.

Clarius Magur vern: magur.

Entropiichthys Vacha vern: bacha.

Callichrous Bimaculatus.

Pseudentropius Atherinoides.

Pseudentropius Garua.

Pangasius Buchanani vern: pangas.

This fish grows to a large size and is easily caught, particularly in the Sunderban rivers. Boat loads of Pangas fish were caught for food by destitute cultivators during the scarcity of 1921.

Silundia Gaugetica vern: silond.

Macrones Aor.

Macrones Gulio.

Macrones Vittatus.

These are the well known tengra fish, whose poisonous spines are a constant menace to persons wading bare-footed in khals. During the survey of the Boyra bil area in Satkhira Thana, where these fish are particularly prevalent, constant complaints of injury to our amins were received.

Arius Jatius.

Arius Gagoora.

Ostogeniosus Militaris.

Bagarius Yarrellii vern: bagar.

Gagata Cenia.

Culpea Hisha vern: ilish.

This is the hilsa, the best known table fish in Bengal. In view of its value and popularity as food, it is strange that its life history has not yet been ascertained. The breeding grounds of its cousin the American shad were for a long time a mystery, and those of the hilsa have not yet been discovered. The fish appear in the upper reaches of the Khulna rivers in late spring and

early summer; they are then in excellent condition and fleets of small boats are employed for catching them, particularly on the Madhumati whose sweet water seems congenial to the fish. In late summer and autumn the supply of fish falls off, but in November they again become temporarily plentiful but are in inferior condition. At the same time small fish which appear to be hilsa fry are found among the catch of fine meshed nets on the rivers: during the winter the hilsa disappear. The inference from these facts is that there is a spring run of the fish towards the breeding grounds whence they return with the fry seawards in November, but nothing further is known. Whether they retire as high as the Ganges to breed, or whether they choose retired spots in the Ganges effluents neither scientist nor fisherman knows. The ascertainment of the breeding grounds and the conservation of the fry is an economic problem of no small importance in Bengal. *Clupea* Chapra (vern: chapra), a small slypeid fish resembling the hilsa, is found in most of the rivers. Other small clypeids of various genera, notably *Pellona*, *Chatoessus*, *Engraulis* and *Coilia* are found in the salter rivers, and form a link between the river, estuarine, and sea piscifauna.

Notopterus Kapirot vern: pholi.

Notopterus Chital vern: chital.

Belone Canceila vern: cacle.

Hemiramphus Limbatus.

Hemiramphus Ectuntio.

Lates Calcarifer vern: bhekti or pathari is another well known table fish. It is most common in the estuaries and lower reaches of the rivers, but finds its way northward in the salter rivers to a considerable distance from the sea. Besides the bhekti other perches are found in similar localities all more or less palatable food. Among the commonest are members of the genera *Serranus*, *Ambassis*, *Therapon*, *Pristipoma*, *Datnioides* and *Gerres*. The following species have been identified:—

Serranus Lanceolatus.

Ambassis Ranga vern: chanda
kata.

Ambassis Nalua.

Therapon Jarbua.

Pristipoma Guoraca.

Datnioides Quadrifasciatus.

Gerres Setifer.

Nandus Marmoratus.

Reference has been made above to the tapsi or mango fish, *Polynemus Paradiseus*; other members of the same genus found in the rivers are:—

Polynemus Tetradactylus vern: teara bhangon.

Polynemus Indicus.

Members of the genera *Sciaena* and *Sciaenoides* are netted in large quantities. These are the fish, which are described in Calcutta as whiting, and are considered extremely palatable there: locally they are known as bhola, and, strange to say, are little appreciated: few fish can be bought more cheaply in village hâts.

The species identified appear to be—

Sciaena Belangeri.

Sciaena Cuja.

Sciaenoides Pama.

The Gobiidae, generally known as bailli fish from their habit of lurking in the sand or mud, are well represented here and include—

Gobio Giuris.

Gobio Viridipunctatus.

Apocryptes Lanceolatus.

Apocryptes Bato.

Eleotris Fuscus.

Eleotris Butis.

Gobioides Rubicundus and the curious mudskippers (*Periopthalmi* and *Boleopthalmi*) whose pectoral fins have so far developed towards limbs that they can leave the water and propel themselves over the mud. They are pugnacious little fish; the males often provide a curious spectacle by elevating their brightly coloured dorsal fins and, as it were, squaring up to each other ready for battle. The mullets form a group of valuable fishes whose delicate white flesh is universally appreciated. The three forms generally found in the district are—

Mugil Tade vern: bhangon.

Mugil Carinatus vern: parsi.

Magil Corsula vern: corsula.

The latter swim in shoals with their eyes elevated above the surface of the

water: many are taken by means of long pronged spears.

Flat fishes found in the rivers of the district include *Cynoglossus Lingua* and *Cynoglossus Bengalensis*. They are less appreciated as food here than in Europe, a fact which is perhaps reflected in the local names kukur jib (dog's tongue) or bans patta (bamboo-leaf). Other fish found commonly in the Khulna rivers, more remarkable for their appearance than for their economic value include—

Batrachus Gangena.

Rhynchobdella Aculeata.

Mastacembalus Armatus vern: bans.

Mastacembalus Pancalus.

Tetrodon Cutcutia vern: tepa.

Tetrodon Fluvialis.

51. Bil and Tank fishery.—Just as the sea, estuarine and river fisheries are linked by the occurrence of certain species indiscriminately throughout, so also is there a connection between river and bil fisheries by the fact that certain species inhabit both bils and rivers and are commonly caught in both. Most of these have been referred to above among the river fishes, but a few are found so constantly in bils that they merit separate reference.

Sacchebranchus Fossilis vern: singhi. This fish is armed with extremely poisonous pectoral spines, but is much sought after by bil fishermen as its flesh is a favourite Bengali delicacy particularly appreciated by invalids.

Wallago Attu vern: boal. This is a predacious fish comparable to the pike in the havoc it creates if it finds its way into a stock-pond.

Anabas Scandens vern: koi. This is the well known climbing perch; it is capable of living out of water for a very considerable time, and has the power of propelling itself over the land, and we are told, of climbing trees though I have never seen this. After the first few downpours of the monsoon, the koi fish desert the shallow bils where they have lived through the hot weather, and are often to be seen making their way through the wet grass and mud to the new pools formed by the advent of the rains. As a food the koi is more appreciated by Bengali than European palates. The same applies to *Trichogaster Lalius*, vern: colsi, a

smaller relation of the koi. The Ophiocephalidæ form a group of fish which are usually found in bils; they occur also in rivers and tanks, but avoid the lower reaches and estuaries of the rivers. There are four species in this district, viz., Ophiocephalus Striatus vern: sol, Ophiocephalus Punctatus vern: taki or chang, Ophiocephalus Marulinus vern: gajal and Ophiocephalus Gachua vern: kala taki. The prevalence of these fish is reflected by the common village names Gazalia, Taki, Solpur, Solmari, etc. They are all good and nutritious as food; the sol is generally awarded pre-eminence in this respect and is among the best table fish in Bengal. They are all very tenacious of life and can live long out of water: they are reported to leave the water, at times, of their own accord. The typical tank fish are found among the Cyprinidæ or carps, and it is with these fish that tanks are usually stocked. Most of them are also found at times in the upper reaches of rivers or in bils; they generally avoid the neighbourhood of the sea, but are taken at times even on the coast. The following are found commonly in the district:—

- Labeo Calbasu vern: calbans.
- Labeo Rohita vern: rohit or rohu.
- Labeo Boga.
- Labeo Gonius vern: gonua.
- Cirrhina Mrigala vern: mriga.
- Cirrhina Reba vern: rayek.
- Catla Buchananii vern: catla.

Barbus Sarana vern: sarpooti and other smaller members of the genus Barbus which are usually known as pooti fish.

- Rasbora Daniconius vern: morla.
- Rasbora Elanga vern: elang.
- Rasbora Buchananii.
- Rohitee Cotto.
- Danio Spinosus.
- Chela Bacaila vern: chela.

52. Shrimp fishery.—A very lucrative trade in dried shrimps has been established in the district and is carried on throughout the rainy season chiefly in Satkhira and Khulna subdivisions. Before the rains set in, drying stations

known as “kuthis” are established on the banks of rivers where shrimps abound during the rains. The “kuthidar”, as the man in charge of the enterprise is termed, arranges with local fishermen to supply him daily with their catch of shrimps. These are caught by stretching a long net, locally known as a “beuti” net, across the river when the ebb begins; the net is hauled at low tide and the catch is taken to the kuthi. Two methods are employed for preserving the shrimps. They are either fire dried on a mat platform within the kuthi, or are boiled and then sundried and husked. The shrimps are measured by baskets of a standard size, made of “hogla” reed (Typha Elephantina), a square cubit at the base and four cubits in length; two such baskets are estimated to contain a maund of fresh shrimps. About six fishermen are attached to each kuthi and the average catch from June to October is about 30 baskets per month. The usual destination of the fire dried shrimps is Chittagong, where they sell at an average price of Rs. 15 per maund, giving a profit to the kuthidar of about Rs. 28 per maund. The boiled shrimps are not consigned to their destination by the kuthidar, but are usually bought by a Rangoon broker at the kuthi. The price varies with the season, but it generally leaves not less than Rs. 10 per maund profit. On the basis of the above figures a conservative estimate of the profit to the kuthidar for dried shrimps is Rs. 120 per month or from 600 to 700 rupees per working season. The profit per maund, on the boiled shrimps is much greater than on the dried, but the demand is fluctuating and, as far as I can ascertain the staple trade is in the latter. The industry is a lucrative one and like all the fishing industry of the district is capable of development.

FOREST PRODUCE.

53. Sunderbans Trees.—A great source of wealth to the district is the produce of the reserved Sunderbans forest. The history of the circumstances which led to the creation of the reserved forest and the methods employed for obtaining revenue from it have been given elsewhere. The main natural products are timber, wax and honey, and lime produced from shells of molluscs. The most important of the forest trees is the sundri (Heritiera

Minor), a gregarious tree with dark red wood, which is in great demand, owing to its durable properties, for boat building. Though tolerant of salt water, it attains its greatest size in the east of the district where the fresh water of the Madhumati finds its outlet to the sea. The pasur (*Carapa Moluccensis*) is a large tree also providing excellent and durable timber. Unlike the sundri, the Pasur is a solitary and somewhat rare tree. It is used for posts and planks.

The amur (*Amoora Cucullata*) and dhundhul (*Carapa Obovata*) are trees closely related to the pasur, but of inferior quality. The latter and occasionally the former are used for making house posts and dhundhul is also sometimes used for preparing boards. Small amur trees are used for fuel and for making *hooka* stems; large quantities of these are prepared at Daulatpur near Khulna.

The bain tree (*Avicennia Officinalis*) is one of the largest of the Sunderban trees, attaining a height of 60 feet and a sufficiently large girth to make its often hollow trunk a serviceable sluice for draining away the accumulation of water from embanked Sunderban lands. Nature helps in the process for the heart wood of the tree decays earliest, leaving a hollow shell eminently suited for a natural sluice pipe. The wood of the bain tree is used for planking and fuel; the flowers are small, yellow, and sweet smelling and afford a distinctive honey. Four species of mangroves are common, namely, *Rhizophora Conjugata* (garjan), *Ceriops Roxburghiana* (goran), *Kandelia Rheedii* (goria), *Bruguiera Gymnorhiza* (kankra), and a second species of *Rhizophora* (*R. Mucronata*) also occurs. These trees are all rich in tannin and the possibility of utilizing them for tanning purposes has been subject of a recent enquiry. Only kankra attains a sufficient size to be of any value as timber; they are generally used as firewood and the goran is commonly used for fencing and reinforcing mud walls; it also furnishes the poles used by fishermen for stretching their nets and other similar purposes, and a decoction of the sap of the same tree is used as a preservative dressing for nets. The gewa (*Excoecaria Agallocha*) is a hardy tree which thrives in the saltiest areas; its young shoots are

the first vegetation to appear among the masses of seeds and drift wood at the edge of the sea. Its wood is white, and forms a satisfactory timber when the trees are of sufficient size and is also employed for making match boxes: its sap is milky and poisonous, like that of a kindred tree, *Sapium Indicum*, which is used for poisoning fish. Small trees are used for making charcoal and the small round cakes of charcoal fuel known as "tikis"; musical instruments, *e.g.*, the *tabla*, are fashioned from its wood.

The keora (*Sonneratia Apetala*) is one of the most striking trees in the forest, forming a lofty screen, reminiscent of great English willows, at the edge of many rivers. Deer are particularly partial to its leaves and browse them off as high as they can reach, thus producing a uniform abrupt dark line along the grove where the foliage has been bitten off. The wood is light but fairly serviceable; the fruit is edible though not palatable and is used as emergency food.

The ora (*Sonneratia Acida*) is a similar but smaller tree used as fuel.

The shingra (*Cynometra Ramiflora*) is a leguminous tree with pretty white flowers, reminiscent of a may tree. It is the best wood for fuel in the Sunderbans.

The karauj tree (*Pongamia Glabra*) is a large tree which grows usually on high ground at the edge of rivers or on lines of old sand dunes where its thick leafage affords a grateful shade. Its chief economic use lies in the oil expressed from its seed pods.

There are two palms found in the Sunderban mud, the lental (*Phoenix Paludosa*) and the golpatta (*Nipa Fruticans*); the former resembles a dwarf date palm and furnishes rafters for house building; the latter, one of the most important Sunderban products, is used universally in areas adjacent to the Sunderbans for roofing houses. The compound leaves are interlocked on a frame work and form a durable, cool, and rain-proof thatch. The fruit of the golpatta is edible but insipid resembling that of the palmyra palm.

54. Other forest produce.—Honey and wax from wild bees' combs are collected mainly in the months of April and

May, and exported to Calcutta. The flavour of the honey varies greatly with the trees from which it is gathered.

Shells of two species of molluscs known locally as "jhongra" and "jhinuk" are collected in the Sunderbans and brought up to Khulna where after decaying for a few days with an appalling odour they are converted into lime by burning.

Oysters are found in the extreme west of Khulna district near the sea face—they are edible, but by no means delicate in flavour. The question of utilizing their shells for lime is at present under investigation.

Chapter III.—The People.

POPULATION.

55. **Variation in population.**—The shape of the six principal Ganges deltaic districts is a rough quadrilateral having six compartments, three in an upper line and three in a lower line. The upper line is represented from west to east by Nadia, Jessore, and Faridpur, and the lower line by 24-Parganas, Khulna, and Bakarganj. The variation in population of the components of this area since 1872 is represented by the accompanying table.

The 24-Parganas from its proximity to Calcutta and its large industrial population presents anomalous features which make it impossible to bring it into line with the others; but apart from that district, the above chart points clearly to the fact that in the Ganges delta the ratio of population has a direct relation to the activity of the rivers. A good deal has been said in this report on the subject of the silting up of the western effluents of the Ganges; this need not be repeated here, but it is in consonance with the eastern trend of Ganges action that we find in the top row of the chart the population increases largely and steadily from the left compartment to the right. As regards the bottom line of the chart, omitting the anomalous district of the 24-Parganas, the same tendency is apparent; for Khulna, where jungle clearance since 1871 has come into operation far more than in Bakarganj, can only equal the latter district's percentage of increase, while the increase of Khulna over Jessore, though partly due to jungle reclamation, also undoubtedly corresponds to the increased activity of rivers within tidal range. Of the various factors upon which population depends, two of the most important are agricultural prosperity and public health. When therefore we find a direct relation between river activity and increase of

	Persons.						Variation Increase (+) Decrease (-)					Net variation in period 1872- 1921. Increase (+) Decrease (-)	Percent- age of increase or decrease since 1872. Increase (+) Decrease (-)
	1921.	1911	1901.	1891.	1881.	1872	1911-21.	1901-11.	1881- 1901.	1881-91.	1872-81.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
24-Parganas	2,628,205	2,431,104	2,078,359	1,891,288	1,690,771	1,581,448	+194,101	+355,745	+187,071	+200,517	+109,323	+1,046,757	+66.2
Nadia	1,487,572	1,617,462	1,657,888	1,634,058	1,653,198	1,491,962	+129,890	+40,426	+23,830	+9,140	+161,236	+1,390	-29
Jessore	1,722,219	1,743,371	1,797,794	1,872,803	1,922,916	1,439,249	+21,152	+54,423	+75,009	+50,113	+483,667	+282,970	+19.6
Khulna	1,453,034	1,392,416	1,249,055	1,173,904	1,076,511	1,043,547	+90,618	+113,361	+75,151	+97,393	+32,964	+409,487	+39.2
Faridpur	2,249,858	2,115,851	1,975,606	1,861,789	1,696,635	1,560,337	+104,067	+170,245	+113,817	+165,154	+136,298	+689,521	+44.2
Bakarganj	2,023,756	2,424,782	2,288,013	2,150,512	1,897,847	1,884,637	+198,974	+136,769	+137,501	+252,665	+13,150	+739,059	+39.2

The results of this may be summarised by the following chart showing percentage of increase or decrease since 1872 :—

Nadia	Jessore	Faridpur
-29	+19.6	+44.2
24-Parganas	Khulna	Bakarganj
+66.2	+39.2	+39.2

population, it is not difficult to agree with Dr. Bentley when he attributes the decline of agriculture and the deterioration of public health, to the cessation of free river spill in the affected areas. "Briefly", he says in his recent report on Malaria and Agriculture in Bengal "it is the want of facilities for the ingress and egress of rain and flood water which is responsible both for a great decline of agriculture and the deterioration of the

public health which has accompanied it". Compared with the rivers of Nadia and to a less extent with those of Jessore the rivers of Khulna still carry large volumes of water which periodically flush the land. Hence her population is still on the upward grade, but in nature's good time she will have to suffer the travail of the emergence of upland from the embryo deltaic stage, and it is unlikely that this period will be long delayed. The opening up of the Sunderbans has been referred to above as a factor in the increase of Khulna's population. The following table however makes it clear that the development has been to a great extent for the benefit of the inhabitants of the district and not of immigrants from outside, for the immigrant population though somewhat greater than the emigrant, forms a very small proportion of the total :—

Khulna.	1921.			1911.	1901.
	Males.	Females	Total	Both sexes.	Both sexes.
Actual population.	757,524	695,510	1,453,034	1,366,766	1,253,043
Immigrants	33,835	26,834	60,669	51,730	65,717
Emmigrants	19,801	18,432	38,233	39,847	25,883
Natural population.	743,490	687,108	1,430,598	1,351,883	1,213,209

It is however to be remembered that the agricultural population of Khulna Sunderban tracts is in more senses than one a floating one, increasing in the cultivating season when men of other districts, chiefly from Barisal, come to cultivate the lands they hold here. Still more is this the case in the reaping season when not only do the Sunderban tenants come to their lands from other districts, but a host of landless labourers or "dawals" flock down from Faridpur and elsewhere to earn their food by cutting the plentiful Sunderban harvest. The immigrant population therefore depends largely on the season of the year, and a census taken during the harvesting season would result in a very large increase of immigrants. The census of 1921 was taken on the night of March 18th when the Sunderban harvest was over and the cultivating season had not yet began. Hence it may be assumed that the recorded number of immigrants did not include the temporary Sunderban immigrants, but comprised only the normal type of immigrant population.

The agencies which have been operative in the increase and decrease of population throughout the Ganges delta are equally manifested within the limits of Khulna district. The following table shows the increase and decrease of population in the several police-stations of the district :—

Sub-division and police station.	Total population in 1921.	Total population of previous censuses.			Percentage of variation 1911-1921.
		1801.	1901.	1911.	
1	2	3	4	5	6
Khulna ..	16,049	142,015	154,907	159,870	+ 7.0
Terakhada ..	49,332				
Daulatpur ..	45,724				
Palerhat ..	31,875				
Phultala ..	28,141				
Baitaghata ..	47,807	37,038	40,655	43,560	+ 9.7
Dumuria ..	89,449	79,003	80,429	84,024	+ 5.7
Paikachha ..	110,362	83,137	124,869	153,191	+ 4.5
Dacope ..	49,699				
Sadar subdivision	468,438	341,493	400,860	441,245	+ 6.2
Kalaroa ..	72,416	79,775	71,743	73,661	+ 1.7
Tala ..	96,615	91,044	93,030	95,241	+ 1.4
Satkhira ..	107,304	103,634	102,612	111,749	+ 4.0
Kaliganj ..	122,859	158,437	168,102	204,367	+ 3.1
Chhannagar ..	51,996				
Debhata ..	35,793				
Asasuni ..	61,711	62,710	53,649	62,362	+ 3.8
Satkhira subdivision	551,694	495,600	489,142	547,380	+ 0.8
Mollalat ..	66,779	59,124	61,329	56,987	+ 17.2
Bagerhat ..	86,271	151,778	159,007	164,130	+ 8.5
Fakirhat ..	43,402				
Kachua ..	48,488				
Rampal ..	79,675	55,676	65,178	69,179	+ 15.2
Morrellganj ..	83,013	73,981	77,527	83,495	+ 23.0
Sarankhola ..	19,671				
Bagerhat subdivision.	427,299	340,559	363,041	373,791	+ 14.3
District total ..	1,453,034	1,177,652	1,253,043	1,362,416	+ 6.7
Sunderban forest.	5,603	..	..	..	..

The agency of river action can be clearly traced from this table. In Kalaroa and Satkhira alone, the two north western police-stations, the population has declined since 1911, just as in Nadia alone, the north western district of the six Gangetic districts referred to above,

there has been a similar decline. Again passing from west to east just as the percentage of increase grows from Nadia to Jessore and Jessore to Faridpur, so the percentage of increase, viz., 0·8 in the western subdivision of Satkhira increases to 6·7 in the central subdivision of Sadar and to 14·3 in the eastern subdivision of Bagerhat. In individual police-stations the same tendency is clearly manifested; the greatest decrease is in the extreme north-west, viz., Kalaroa, and the greatest increase in the extreme south-east, viz., Morrellganj and Sarankhola. The lesson of the deltaic districts applies equally to the local areas of Khulna, and it is safe to prophecy that if the Ganges water continues to seek outlet to the sea further and further east, as in all human probability it will, the conditions which now cause a decline of population only in the north-west of the district will prevail throughout. Whether in time the genius of the engineer will devise means for refushing dead channels or the genius of the scientist will defeat the mosquito and other carriers of tropical disease is a question we cannot answer now, but in the answer to this question lies the entire future health and prosperity of this district.

56. Density.—The following statement shows the population and density of the subdivisions and their component police-stations as found at the census of 1921. For the purposes of this statement the areas as adopted in the Census Report have been adhered to; owing to subsequent changes of jurisdiction, these areas are no longer accurate, but they serve their purpose as a basis of estimating the density of the population in 1921

Name of police-stations.	According to census of 1921.		
	Area in square miles (as adopted in the census tables).	Population (according to census).	Density.
1	2	3	4
1. Kalliganj ..	214	122,859	574
2. Tala ..	141	96,615	685
3. Kalaroa ..	88	72,416	823
4. Satkhira ..	138	107,304	778
5. Asasuni ..	122	64,711	530
6. Debhata ..	66	35,793	542
7. Shyamnagar ..	161	51,906	323
Satkhira subdivision ..	930	551,004	593

Name of police-stations.	According to census of 1921.		
	Area in square miles (as adopted in the census tables).	Population (according to census).	Density.
1	2	3	4
8. Ghultala ..	30	28,141	938
9. Dankapur ..	33	45,724	1,386
10. Khulna ..	38	47,924	1,261
11. Terakhada ..	83	49,332	594
12. Dumuria ..	182	89,449	491
13. Baitaghata ..	98	47,807	488
14. Paikgacha ..	186	110,362	593
15. Dacope ..	115	49,699	432
Khulna subdivision ..	765	468,438	612
16. Mollahat ..	94	66,779	710
17. Fakirhat ..	62	43,402	700
18. Bagerhat ..	125	86,271	690
19. Kachua ..	60	48,488	808
20. Rampal ..	217	79,675	367
21. Morrellganj ..	143	83,613	584
22. Sarankhola ..	37	19,671	532
Bagerhat subdivision ..	738	427,299	579
District total, excluding Sunderbans.	2,433	1,447,431	595
Sunderbans ..	2,297	5,693	2
District Total ..	4,730	1,453,024	307

The density of the whole district, excluding the scarcely inhabited reserved forest is 595 persons per square mile. For purposes of comparison, the following chart shows the density of population in the six districts of the Ganges delta:—

Nadia 535	Jessore 593	Faridpur 949
24 Parganas 541	Khulna 595	Bakarganj 752

The same inferences as to the effect of the Ganges water upon the health and prosperity of the population can be drawn from this chart as have been drawn above from the chart illustrating increase in population; in addition it is clear that land annually fertilized by the silt-laden eastern distributaries of Ganges water can support a far greater population than the western areas where little silt is now distributed. The density of the southern group of districts in the chart is affected, in comparison with the northern group, by the

fact that they contain large stretches of sparsely populated Sunderban reclamation. It is interesting to compare with these figures the density of the whole of Bengal which is 579, of England which is 558, of Germany which is 269, and of France which is 188 persons per square mile.

Of individual police-stations the urban and semi-urban areas of Khulna and Daulatpur have the greatest density, and the reclaimed Sunderban areas of Rampal and Shyamnagar have the least. Kalaroa and Satkhira, the two police-stations where the population has declined between 1911 and 1921, show the high density of 823 and 778 respectively. In them the anabolism of delta building is complete and katabolism has just set in: the extent of the katabolism at the time of the next census will be an interesting index of the rate at which population declines when the rivers die.

57. Caste distribution.—The following castes and divisions of the people number more than one per cent. of the district total:—

Hindu.

Barui	..	..	18,771
Brahman	..	..	37,650
Chasi Kaibartta	..	..	26,805
Kapali	..	..	20,237
Kayestha	..	..	44,782
Malo	..	..	15,176
Muchi	..	..	21,751
Namasudra	..	..	227,844
Nāpit	..	..	20,268
Pod	..	..	151,953

Muhammadan.

Jolaha	..	..	19,921
Pathan	..	..	15,999
Sheikh	..	..	651,951

58. Pods and Namasudras.—As the deltaic area which is now Khulna district rose out of the sea, the first persons to penetrate its swampy forests were undoubtedly pre-Aryan hunters and fishers who alone could find a livelihood to their taste in its jungles and rivers. These tribes are now represented by the Pods and Namasudras, who form the bulk of the non-Muhammadan population of the district. The term Namasudras is a euphemism for the detested name of Chandals who were held in

lowest estimation of all the aboriginal tribes of Bengal by the invading Aryans. The Pods are represented to be an ancient offshoot of the Chandals who raised themselves in social status by adopting a new name. Both are dark-skinned hardy races whose ancestral pursuits of hunting and fishing have rendered them peculiarly fit for the pioneer work of bringing the inhospitable Sunderban jungle under cultivation, but with the increase of cultivation they have largely abandoned their former vocations in favour of those of cultivator and boatman, and to some extent for those of craftsman and trader. Their distribution in the district is well marked but not easy to account for. The following table gives their distribution by police stations:—

Police-stations.	Namasudras.	Pods.
Khulna	6,106	698
Terakhada	17,604	..
Daulatpur	5,663	412
Phultala	2,130	223
Baitaghata	19,888	6,949
Dumuria	19,993	7,346
Paikgachha	12,696	31,139
Dacope	5,695	32,707
Kalaroa	427	46
Tala	2,408	7,033
Satkhira	7,034	7,202
Kadiganj	9,156	15,829
Shyamnagar	1,122	21,602
Deblhata	3,121	345
Asasuni	4,481	15,318
Mollahat	27,589	..
Bagerhat	11,408	306
Fakirhat	7,140	45
Kachua	16,000	4
Rampal	27,373	3,928
Morrellganj	16,451	..
Sarankhola	4,166	..
	227,651	151,432
Sunderban forest	193	521
District Total	227,844	151,953

It appears from this table that the Namasudras are most numerous in the north and east of the district and the Pods in the south and west. Supposing

in ancient times two streams of primitive inhabitants had followed the courses of the great delta building rivers the Jamuna and the Bhairab, the Pods along the former and the Namasudras along the latter, the present distribution of these castes within the district would be accounted for. It is certain that the Pods are essentially a Western Bengal and the Namasudras an Eastern Bengal race, for in the census of 1872 Pods were practically absent from Eastern Bengal but numbered 249,075 in the 24-Parganas and 21,562 in Jessore (the two districts adjacent to the old Jamuna course), while the Namasudras numbered 326,775 in Bakarganj and 271,325 in Jessore (where the old Bhairab flowed) but only 46,056 in the 24-Parganas.

During the present century the Namasudras have increased but the Pods have declined in numbers. The figures for the former were returned at 105,495 and for the latter 190,507 at the census of 1901. It is difficult to give a reason for this: to some extent the better health conditions associated with freer river action are in favour of the more easterly race, but it is also probable that the recent awakening of political consciousness among the Namasudras is partly responsible for the figures returned. The Namasudra is in fact proud of his caste; the Pod is ashamed of his, and has recently attempted to adopt the name of "Brata-Khattriya" as a caste name in place of the name of Pod. No Namasudra would be likely to conceal his caste from the enumerator while Pods might well do so. This awakening of political consciousness among the Namasudras is a recent phenomenon which is not unlikely to have considerable political importance in the future. Already the Namasudras members have been returned to the Bengal Council, and the Namasudra candidate has been in evidence at the elections in this district. A less desirable feature of the awakening of this caste's consciousness is the communal tension between them and the Muhammadans which has been a source of anxiety to the district executive authorities for some years.

59. Muhammadans.—Where the Pods and Namasudras cleared the way, converting jungle into paddy land, the hardy Muhammadan, often himself a recent convert to Islam, followed, and now forms a very considerable element in the cultivating population of the district. The following statement shows the

number of Muhammadans in each police-station returned as Sheikhs at the last census :—

Police-stations.			Sheikhs.
Khulna	..	..	17,744
Terakhada	..	..	22,135
Dauhatpur	..	..	18,477
Phultala	..	..	15,120
Baitaghata	..	..	14,977
Dumuria	..	..	36,968
Paikgacha	..	..	43,444
Dacope	..	..	8,552
Kalaroa	..	..	49,488
Tala	..	..	42,133
Satkhira	..	..	53,988
Kaliganj	..	..	58,134
Shyamnagar	..	..	18,287
Debhata	..	..	15,618
Asasuni	..	..	27,309
Mollahat	..	..	31,451
Bagerhat	..	..	37,642
Fakirhat	..	..	15,691
Kachua	..	..	19,584
Rampal	..	..	35,236
Morrellganj	..	..	51,813
Sarankhola	..	..	14,412
			648,203
Sunderbans forests	..	..	3,748
District Total	..	..	651,951

The Sheikhs are normally cultivators; apart from them the number of Muhammadans in the district is not large, for the only other sections which number more than one per cent. of the population are Jolahas, who number 19,921, and the Pathans, who number 15,999. The Jolahas are the weavers, often spoken of as Karigars; they appear to have recently entered the district for in the census of 1881 they only numbered 267, and at the present time are more or less confined to the north. The Pathans form the higher element among the Muhammadans; the fact that since 1901 the Jolahas have decreased and the Pathans have increased in numbers probably shows that the lower class Muhammadans are prone to usurp higher social status. A distinction is occasionally made between the Ashraf and Atraf

Muhammadans; the former term seems to connote Muhammadans of pure northern descent, while converted Hindus or those who are descendants of an admixture of races are known by the latter name. Next in order of number come the literate castes of Kayesthas and Brahmans. As is to be expected, they are found chiefly in the older and more advanced tracts particularly along the banks of the Bhairab. The Kayesthas are mainly Dakshin Rarhis with an admixture of the Bangaja sub-caste in the south-west. The Brahmans are Rarhi and Barendra, the former being more numerous than the latter.

60. Other Castes.—Of the other castes prevalent in the district, the Barnis have been referred to in connection with betel vine cultivation. The Kaibarttas as elsewhere in Bengal are divided into two groups—Halia or cultivating Kaibarttas and Jalia or fishing Kaibarttas; they are found mainly in the north of the district and are probably late immigrants, as they are practically unknown as cultivators in the recent Sunderban reclamation. The Kapalis are found in much the same areas as the Kaibarttas; they are low caste cultivators and weavers. The Malos, Muchis and Napits respectively follow their caste professions of boatman, leather worker and barber throughout the district.

61. Religions.—The distribution of religions in the district is shown in the accompanying table; there has been little variation in the proportion of Hindus to Muhammadans during the last 20 years, for at the census of 1921 the Hindus numbered 50·46 and the Muhammadans 49·41 of the total population. As regards the distribution by police-stations, there is a considerable preponderance of Hindus in the areas most intersected by rivers while the Muhammadans preponderate in the drier police-stations of Kalaroa, Phultala, Tala and Satkhira. The reason for this is the fact that the Pods and Namasudras have an inherited adaptability to a life among the swamps, while the Muhammadan is a cultivator of drier tracts. The only two Sunderban police-stations in which Muhammadans preponderate are Morrellganj and Sarankhola where they have migrated from Bakarganj. These areas, built up by Baleswar silt, are higher and less intersected with channels than other parts of the Sunderban reclamation, and have accordingly

proved a more congenial home to the Muhammadans. The main Christian settlements are in Rampal police-station.

Name of thana.	Hindus.	Muhammadans.	Christians.
Kaliganj	61,533	61,091	..
Tala	45,260	51,355	..
Kalaroa	17,976	54,162	278
Satkhira	43,356	63,948	..
Asasuni	36,128	28,578	1
Debhata	19,456	16,337	..
Shyamnagar	28,935	22,696	..
Satkhira subdivision	252,644	298,167	279
Phultala	9,706	18,435	..
Daulatpur	25,067	20,654	..
Khulna	27,162	20,503	256
Terakhuda	26,307	23,025	..
Dumuria	47,790	41,646	6
Baitaghata	31,060	16,747	..
Paikgachha	60,429	49,484	..
Dacope	40,540	8,805	354
Khulna subdivision	268,061	199,299	616
Mollahat	32,238	31,539	..
Fakirhat	25,911	17,491	2
Bagerhat	46,783	39,479	6
Kachua	26,901	21,584	..
Rampal	40,945	37,427	1,303
Morrellganj	27,054	55,959	..
Sarankhola	4,576	15,095	..
Bagerhat subdivision	204,411	221,574	1,311
Total	725,116	719,040	2,206
Sunderban forest not included in any subdivision.	1,745	3,877*	11
Grand Total	726,861	722,887	2,217

* In boats.

62. Occupation.—The following extract from the census tables of 1921 shows the various occupations in which over 1,000 persons in the district are employed. It decisively illustrates to

what an extent Khulna people are dependent upon agriculture; out of a district total of 1,453,034, no less than 1,214,343 persons are dependant upon agriculture for their livelihood either as land-owners, cultivators, rent collectors, or labourers.

Fishermen with a total of 25,155 rank next to agriculturalists; this is the third highest district total of fishermen in the province and is exclusive of the 21,024 persons referred to below as dealers in fish. Of other industrialists weavers rank third with a total of 14,024, which though low in comparison with several other districts, shows that the craft is a considerable village industry here. Among traders the dealers in fish numbering 21,024 far outnumber all others, the only ones to approach them being the betel and other vegetable produce dealers who number 12,486. The number of grain dealers, viz., 5,020 is unexpectedly low for a paddy producing district and, I think, illustrates the fact referred to elsewhere in this report that cultivators and reapers resident outside the district carry off a very considerable amount of the produce of the Sunderban cultivation.

Occupation.	Persons engaged in each occupation.
Income from rent of agricultural land ..	63,794
Ordinary cultivators ..	1,040,597
Agents, managers of landed estates, clerks, rent collectors.	5,863
Field labourers ..	104,089
Fruits, flowers, vegetable, betel vine, etc., growers.	5,408
Wood cutters, firewood collectors ..	2,986
Fishing ..	25,155
Cotton sizing and weaving ..	14,024
Leather dressers ..	3,820
Carpenters, turners and joiners, etc. ..	2,140
Basket-makers ..	3,039
Blacksmith ..	3,075
Potters ..	5,440
Oil pressers ..	2,317
Rice-huskers ..	3,242
Sweet-meat makers ..	1,253
Washing, cleaning, dyeing ..	1,421
Barbers ..	9,891
Excavators and well-sinkers ..	1,719
Brick-layers, masons ..	1,089
Boat-makers ..	1,354
Workers in precious stones and metals ..	4,907
Boat-owners, boatmen and towmen ..	4,789
Labourers employed on roads and bridges ..	1,041
Palki-bearers ..	4,776
Railway employees (excluding coolies) ..	1,791
Bank managers, money-lenders exchange and insurance agents, money changers, brokers and their employees.	1,361
Trade in piece-goods, wool, cotton, silk ..	4,594

Occupation.	Persons engaged in each occupation.
Trade in skins and leather ..	2,650
Trade in wood, bamboo and thatch, etc. (excluding firewood).	1,340
Fish-dealers ..	21,024
Betel-leaf, vegetable, fruit sellers ..	12,486
Dealers in grain and pulse ..	5,020
Trade in hardware, cooking utensils, etc. ..	1,389
Dealers in common bangles, bead, necklaces, fans, etc.	1,053
General store-keepers and shop-keepers ..	2,119
Police ..	1,094
Village watchmen ..	2,282
Service of the State (public administration)	3,303
Priests ..	7,491
Lawyers of all kinds ..	1,668
Lawyers, clerks, petition writers ..	1,100
Medical practitioners of all kinds (including dentists, oculists and veterinary surgeons).	4,082
Professors and teachers of all kinds ..	3,960
Music-composers and masters, players on all kinds of musical instruments, singers, actors, dancers.	1,280
Cooks, water-carriers, door-keepers, watchmen and other indoor servants.	9,866
General terms which indicate no definite occupation.	6,815
Cashiers, accountants, book-keepers, clerks, etc.	2,723
Labourers and workmen ..	3,989
Beggars, vagrants, etc. ..	6,917
Procurers and prostitutes ..	1,064

The main classes of occupation fall into the following groups:—

Group.	Number of persons engaged.	Percentage of total population.
1. Pasture and agriculture (including those deriving income therefrom).	1,224,026	84·23*
2. Fishing and hunting ..	25,206	1·73
3. Industries ..	63,585	4·37
4. Transport ..	14,951	1·02
5. Trade ..	72,371	4·28
6. Public administration and liberal arts.	27,706	1·90

ECONOMIC CONDITIONS.

63. Typical families' budgets.—

During the course of the present operations enquiries were made with a view to ascertaining the annual budget of typical cultivating families. The results were interesting from their discrepancies, but I am inclined to attribute the discrepancies not so much to differences in actual

scale of expenditure or income, but to the illiterate cultivators absolute inability to give even approximately correct figures. A man who cannot tell you his own age or that of his children is not likely to be able to give much idea of the amount he spends annually on

medicine or cloth. Subject to these reservations the following two budgets may be taken as typical of, respectively, the indigent and the comfortably situated cultivator. The figures have been as far as possible tested and may be taken to be approximately accurate.

Samed Mollah of Teliganti.					Abdul Samed Sikdar of Guakhola.				
Males.		Females.			Males.		Females.		
Adult	Minor	Adult	Minor		Adult	Minor	Adult	Minor	
3	1	2	Nil		4	Nil	6	4	
He cultivates 6 acres of land.					He cultivates 40 acres of land.				
Income Table.					Income Table.				
1.	Annual produce from land	..	..	130 mds.	1.	Annual produce from land	..	..	800 mds.
				Rs.					Rs.
2.	Annual income from produce and fodder	..	..	420	2.	Annual income from produce and fodder	..	..	2,600
3.	Annual income from selling milk, fowls, eggs, vegetables, fruits and other orchard products of the land.	..	..	80	3.	Annual income from milk, fowls, eggs, vegetables, fruits and other orchard products of the land.	..	..	500
	Total annual income..	..	..	500		Total annual income	..	..	3,100
Expenditure Table.					Expenditure Table.				
				Rs.					Rs.
1.	Rent and abwabs at Rs. 5 an acre	..	..	30	1.	Rent and abwabs at Rs. 5 an acre	..	..	200
2.	Taxes	..	..	2	2.	Taxes	..	..	15
3.	Cost of agriculture (including only value of hired labour but not value of personal labour) at Rs. 16 an acre.	..	..	96	3.	Cost of agriculture (including only value of hired labour but not value of personal labour) at Rs. 16 an acre.	..	..	640
4.	Cost of up-keep of cattle	..	..	15	4.	Cost of up-keep of cattle	..	..	100
5.	Cost of medicine and doctors	..	..	5	5.	Cost of medicine and doctors	..	..	50
6.	Cost of implements and repairs	..	..	5	6.	Cost of implements and repairs	..	..	40
7.	Purchase of foodstuff	..	..	* 300	7.	Purchase of food-stuff	..	..	725
8.	Cloth	..	..	60	8.	Cloth	..	..	150
9.	General household expenditure	..	..	25	9.	General household expenditure	..	..	100
10.	Litigation	..	..	Nil.	10.	Litigation	..	..	200
11.	Luxury, etc.	..	..	15	11.	Luxury, etc.	..	..	100
	Total annual expenditure	..	..	553		Total annual expenditure	..	..	2,320
	Balance in hand	..	..	Nil.		Balance in hand	..	..	780
	Minus	..	..	53					

It will be seen that in the first case there is a slight deficit on the year's budget, and in the second case a comfortable margin. The deficit is made up by borrowing or by working as a hired labourer according to the temperament of the man in question; the surplus is extremely likely to be applied, Muhammadan tenets, notwithstanding, to money lending or at any rate to securing mortgages on land.

As regards the details of the budget, the produce has been returned in one case at 20 maunds per acre and in the other case at slightly more; this is a moderate estimate which in the fertile Sunderban tracts could be at least half as much again one year; on the other hand the following year a broken embankment might mean a total loss of crops. The rent represents a rate of about Rs. 3-6 per acre, the balance is made of abwabs:

in many estates the tenant must reckon on having to pay annually from 50 per cent. to 75 per cent. of his rent under this head. Nothing has been included in either budget for education; had the minor members of the well-to-do cultivators' family been boys instead of girls, a sum ranging up to 100 rupees per annum would have to be added to the budget. In the case of Samed Mullah, the minor boy is educated without charge at the village *patshala*. No amount has been debited to expenditure on account of family ceremonies; there will be annually some small expense which will be met from the head of general household expenditure, but should a wedding or other important ceremony occur in the family, it will be covered by a loan which will be met by diminution in other heads of expenditure till it is paid off. The diet scale allows for $\frac{3}{4}$ seer or rice per

day for each adult, and about half that amount for children. In addition dal, oil, sugar, salt will have to be purchased; Abdul Samed will purchase better class fish, such as hilsa at the local hat, Samed Mullah will depend for fish on the "tengra", "singhi", etc., which he or his small son catches.

64. Factors affecting economic conditions.—In several recent settlement reports it has been the practice, following the example of Major Jack in the case of Faridpur, to estimate the economic condition of the agricultural population by calculating their gross and net income mainly with reference to the value of the yield of the land divided among the persons whom it has to support. There are however certain factors in Khulna district, which increase the possibility of error in this method to such an extent as to make its value nugatory for practical purposes. These factors may be summarised as—

- (i) the absentee tenancies of the Sunderbans,
- (ii) the risk of saline inundation,
- (iii) the existence of the reserved forest,
- (iv) the fisheries of the district.

Reference has been made in several parts of this report to the method of Sunderban cultivation by which a raiyat who does not see his land at all for about nine months in the year, visits it on two occasions (in all perhaps for three months) in order to cultivate and reap his crops. Many of these raiyats are not even resident in the district: the produce of their fields therefore does little to supply the food required by Khulna's increasing population. Again even if the raiyat be a resident of the district, he assuredly follows the pernicious custom of allowing his fields to be reaped by "dawals" or alien reapers who flock down from Faridpur and elsewhere in the harvesting season to earn a share of the produce by doing reapers' work. This custom, born of necessity when tenants were few and Sunderban holdings large still appeals to the ease-loving cultivator, with the result that a considerable portion of his grain passes away to Faridpur in return for service which he no longer needs. In view therefore of the extent to which people of other districts subsist on Khulna produce, calculation of the available resources by

dividing the available produce among the recorded population is little criterion of the economic condition of the district.

In the second place the emergence of the district from the deltaic stage is marked by natural phenomena; particularly seasonal floods, which in one area ruin the year's crops, while in another they distribute silt which assures a bumper yield. This instability renders not merely generalisations but even statistics unreliable indices of prosperity or the reverse; it is useless to hazard guesses based upon estimated annual outturn of crops. On the other hand there are two definite and constant factors which are of the greatest importance in an area where many families are perilously near chronic insolvency. These two factors are the existence of the reserved forest and the fisheries of the district. Mr. Thomson in his recent census report uses the metaphor of a safety valve in connection with the Sunderban forests, and he states that the pressure of population has not yet been great enough to lift the spring. The spring is however lifted temporarily from time to time; during the scarcity in thanas Paikgachha Asasuni and Kaliganj which followed saline inundation in 1921, in village after village of the famine-stricken area which I visited while on relief work I received the same answer from the haggard women in houses where no men were present. "Our crops were ruined by the flood, my husband is cutting wood in the *bada*, (reserved forest) and earns enough to keep us alive. I don't wish to go to the poor house". It is quite certain that one of the main reasons which prevented the local scarcity from assuming the proportions of a famine was the existence of the reserved forest where work, arduous but profitable, was available for those whose crops had been ruined. Similarly the existence of an ample supply of easily obtainable fish is an economic factor of the greatest importance in the district. At the last census 25,199 persons were recorded as earning their livelihood from fishing, and, as the catching and selling of fish for a livelihood entails some social stigma, it is quite certain that the number was not overestimated. On the bank of every river and in every khal men and boys may be seen daily employed in catching fish, with rods or nets, for home consumption, and it is rare that the passer-by who has the patience to watch for half an hour

will not see sufficient nourishing fish for a family's meal taken from the river.

Apart from the conditions peculiar to the district, the Khulna cultivator shares with all other cultivators of Bengal the advantages and disadvantages which govern his economic welfare. Regular rain and a genial sun make husbandry a task which can be performed within a few months of the year, leaving the rest for the idleness which induces a slothful habit: and physiologically speaking, sloth is fostered by a hot, damp climate. Frugality does not go hand in hand with sloth, for the useless expenditure on ceremonies and the frittering away of money on petty litigation which are commonplaces among the economic evils of Bengal, are due not to any inherent perversion in the villager but to the very natural and very human necessity of having some excitement or relief to fill in the tedium of a life of idleness. Ignorance and illiteracy are rarer in villages than they used to be, but even nowadays the proportion of persons of 5 and over who are literate is only 122 per thousand in Khulna district. The direct relation of illiteracy and economic condition in a civilized community is manifested in many ways, in a Bengali village probably most of all in the relation of landlord and tenant. In the matter of execution of deeds, of granting of rent receipts, and worst of all, the sale of lands by *ex-parte* decrees of the Courts, the illiterate goes to the wall.

Khulna is to a great extent a district where only one crop is grown; out of a total cultivable area of 1,115,048 acres in the area surveyed during the present operations, only 38,849 acres are returned as bearing two crops, and the area is practically confined to the north of the district. The ordinary cultivator, therefore, has to depend upon the produce of his winter paddy crop for his year's staple food and income. Not unnaturally when after a good harvest he finds in February and March that his granary is full and his rent has been paid, he launches out into such extravagance, whether it be litigation, purchase of ponies, or luxurious dietary, to which his tastes incline. By August and September his resources are ebbing, and he generally has no *aus* paddy or jute crop ready to supplement them. Unless he be a man of unusual frugality and strength of mind, he has recourse to the village money-lender with the result that at least a portion of his next harvest is hypothecated in advance.

65. Indebtedness of agriculturalists.

—It is not easy to say how far the average Khulna cultivator is permanently in debt. The figures showing the number of mortgage and sale-deeds annually registered are not trustworthy guides, for, as explained elsewhere in this report, leases with high premia are frequently substituted for outright sales. The economic figures collected during the operations, of which typical instances have been given above, tend to show that the normal cultivator is well able to maintain himself and his family without running into debt; while a smaller proportion, say about 20 per cent. of the whole number, cannot maintain themselves in a solvent condition without the adventitious aid of daily labour or woodcutting in the reserved forest. Nevertheless it is the rule and not the exception for the family to have a standing debt. This does not necessarily imply moral delinquency or even undue weakness of character; otherwise we should have to include in the same category a large proportion of subalterns in the Indian Army before the war and a still larger number of officials in Government service before the Lee Commission. India is a hard taskmaster to the character, and Bengal by its climatic conditions is peculiarly exacting. The same conditions of tropical heat and enervating rain which favour the mosquito and breed the character-destroying tropical diseases act more directly without the intervention of bacillus upon the nervous system and produce willy nilly the sloth and the desire for expensive excitement which is inbred in the permanent dweller in Bengal and which soon saps the character of the alien resident.

The Co-operative movement is a palliative, a good palliative if well used—but not a radical cure. It is the bitter experience of those who have had to do with the movement that few societies will flourish without an exceptional member to guide them, and that without such guidance the village banks too often put their seal of blessing upon the dissolute and extravagant habits they came to curse. The remedy, so far as there can be remedy when the forces of nature are arrayed against man, lies in fostering strength of character by invigorating the body. Hygiene, sanitation, prevention of malaria and improvement of the standard of living by cheapening communications are all efficacious means to this end.

Chapter IV.—Fiscal History and Land Tenure.

FISCAL HISTORY.

66. Early fiscal history.—The greater part of the fiscal history of Khulna district is the history of Sunderban resumption and settlement. This subject is inextricably bound up with the resettlement or jamabandi operations undertaken in the course of the present district settlement which embraced about 200 estates, of which about one half were Sunderban mahals. In order to elucidate the problems which were met with in the course of these resettlements, constant reference is necessary to the previous history of Sunderban administration, and I have therefore postponed an account of the fiscal history of the Sunderbans to that portion of this report, which deals with resettlement operations, where the subject can be conveniently treated as a whole.

The earliest assessment of the Subah of Bengal of which anything is known, is that of Todar Mall in 1582-89; he divided up the Subah as it then existed into 19 fiscal divisions entitled "Circars" or "Sarkars." The great majority of the permanently settled area of Khulna district falls within Todar Mall's sarkar of "Khalifatabad" or "Jessore" which was defined by Grant as "the area on the skirts of the Sunderbans or salt marshy islands covered with wood on the sea coast and formed by alluvion with successive changes of the channels of the Ganges".

67. The Sarkars and Parganas.—A list of parganas of sarkar Khalifatabad is given in the Ain-i-Akbari; this list is reproduced below with the modern equivalent parganas of Khulna district where identifiable—

Ain-i-Akbari List.	Modern equivalent.
Bhal.	
Bhaluka.	Bhaluka.
Polah.	Palasu (?).
Potka.	
Baghmara.	Bagmara.
Bhanda.	
Badeo.	
Bhaliyanah.	
Bhulnagar.	
Taluk of Kasinath.	
Tala.	Tala.
Taluk of Srirang.	.

Ain-i-Akbari List.	Modern equivalent.
Taluk of Mahes Mandal.	
Taluk of Parmodar Bhatta-charjiya.	
Taluk of Sripatkiraj.	
Jasur (Rasulpur).	
Charaula.	Chirulia.
Chhalera or Chabrah.	Khajra (?).
Suburban Khalifatabad.	Haveli Khalifatabad.
Khalispur.*	Khalishpur.
Daniya.	Dantia.
Rangdiya.	Rakdia.
Sahaspur.	
Sulaimanabad.	Selimabad.
Sahas.	Sahos.
Sobnath.	Sobnali.
Salesarabahi.	
Imadpur.	Imadpur.
Khokral.*	
Kanges Taluk Parmanand.	Chengutia (?).
Mundakachh.	
Malikpur.	
Madhuriya.	Madhudia.
Mahresa.	
Mangorghat.	

* (Though no pargana of this name now exists in Khulna district, the name is preserved in the Kukrail Ward of Satkhira Municipality.)

The list of modern equivalents given here only represents the parganas at present existing in Khulna district: the list could be amplified if Jessore parganas were taken into account.

Two other sarkars, Satgaon and Fathabad, fell within the present area of Khulna district. Satgaon covered the extreme west of the district and Fathabad the north-eastern corner. From the Ain-i-Akbari lists of the parganas of these sarkars, the following names can be identified:—

Satgaon pargana.	Modern equivalent.
Bodhan.	Buran.
Dhuliyapur.	Dhulipur.
Kaluru.	Kalaroa.
Magora.	Mulghar.
Srirajpur.	Saprajpur.
Hilki.	Helki.
Akbarpur.	Agarpara.

Fathabad pargana.	Modern equivalent.
Bholiabel.	Belphulia.
Kasodia.	Kharoria.
Yusufpur.	Isafpur.

Many large modern parganas do not occur in the Ain-i-Akbari list: others are probably covered by vagaries of transliteration. The identification of

Bholiabel as Phulbelia, and hence Bel-phulia is due to Professor Mitra's ingenuity, and it is probable that similar instances have remained undetected. It is also noticeable that some of the more important omissions from the list, such as parganas Hogla, Jamira and Malai occur at present largely in the reclaimed Sunderban area, and hence may be assumed to have been created since Abul Fazl's list was prepared. Making allowances for these exceptions, it is still possible to trace the extent and boundaries of Todar Mall's sarkars, within Khulna district by the present location of their component parganas, as will be seen from the following outline of the situation of the chief parganas.

Beginning from the eastern boundary of the district, the following old Khalifatabad parganas occupy the land between the line of the Bhairab river and great bil area on the north, and the Sunderbans on the south—Selimabad, Chirulia, Haveli, Khalifatabad, Rakdia and Madhudia. Westward of these the majority of the land as far west as the line of the Kajibacha-Rupsa-Bhairab rivers falls within Hogla pargana—named from the great reed (*Typha Elephantina*), which covers newly reclaimed Sunderban lands. Then from north to south come parganas Chengutia, Moheswarpasha, Khalishpur and Sahos stretching westward to the Bhadra river. Between the Bhadra river and the Kobadak the land is new reclamation and the old Khalifatabad parganas are not found. Adjacent to the Kobadak river come the lands of Tala, Ramchandrapur, Malai and Jamira—all probably old Sunderban outposts of civilisation stretching along the banks of the Kobadak. Further north Dantia pargana extends westward to the Betna river where it meets pargana Kalaroa Hosseinpur of sarkar Satgaon. The lands of these parganas are somewhat intermingled, but the Betna is roughly the boundary of the two sarkars as far as Satkhira town; thenceforward a great bil area separates pargana Bhaluka of Khalifatabad on the east from Satgaon, Buran and Maihatti on the west. Bhaluka represents the southern extreme of the old Khalifatabad parganas: south of it, between the Khôlpetua and Kobadak rivers, lie reclaimed Sunderban lands appertaining to various parganas, of which Jamira is the chief. South of the bil area, which divides the two

sarkars, the rivers Banstola and Gutia-khali mark the western boundary of Khalifatabad Bhaluka; east of these rivers lie the lands of Bajitpur, Dhulia-pur, Saprajpur and Nunnagar, which cover indiscriminately the old cultivated area of sarkar Satgaon and newer reclamation, and stretch southward to the confines of the Sunderbans near King Pratapaditya's old capital Iswaripur.

In a monograph by Professor Blochmann (*Journal of the Asiatic Society of Bengal*, 1873, page 217), he defines sarkar Satgaon as covering the 24-Parganas district up to the river Kobadak. When that article was written (in 1873) the subdivision of Satkhira was part of the 24-Parganas district, hence the meaning of Professor Blochmann is that sarkar Satgaon covered the cultivated area of the present Satkhira subdivision and was bounded on the east by the river Kobadak. Since, however, the materials of the present cadastral survey have become available, it is necessary to qualify the above statement; actually the boundaries of the two Sarkars Satgaon and Khalifatabad, as detailed above, fall within Satkhira subdivision and are fairly accurately represented by the line Betna river—Boyra bil area—Banstola and Gutia-khali rivers. It is an interesting corollary inference that the now-moribund Betna river and the comparatively small Banstola and Gutia-khali rivers were in all probability large natural boundaries in the 16th century as the Pasur and Sipsa are nowadays.

Similarly the boundary of sarkars Khalifatabad and Fathabad within Khulna district is the existing Bhairab river, in those days the "Bhairab" or terrible from its mighty current—but now terrible in another sense from the fatal malaria which follows its dried up course. North and east of the Bhairab lie the Fathabad parganas, Belphulia, Kharoria and Isafpur, and the Mokimpur bil area which was not included in any sarkar.

From the above description it will appear that the sarkars and parganas of Todar Mall's fiscal scheme were, as far as Khulna district is concerned, compact and well defined units. Many changes subsequently took place along with the transition from a territorial fiscal unit to an ihtiman or personal zamindari;

sarkars and parganas were split up and before long ceased to have any real fiscal importance, yet the sarkar died hard and the pargana survives till this day. In the later Mogul fiscal arrangements as detailed by Grant in his appendix to the Fifth report, references to the original sarkars are given in detail when new arrangements are described, and the sarkar was treated as historically important, just as the revenue thana is now-a-days. Some attempt even seems to have been made to preserve its territorial compactness by transferring parganas from one sarkar to another, for example the large pargana of Selimabad which was originally included in Sarkar Khalifatabad appears to have been transferred to Sarkar Fathabad some time before 1728 when it was included in the latter under Shujauddin Khan's assessment.

Even more long lived was the pargana. From the outset it appears to have had a significance wider than that of territorial unit for we find two parganas "Akla" and "Bunjer" the pargana of grazing and the pargana of forest produce in the Sunderbans sarkar of Muradkhana created by Sultan Shuja. Its significance therefore seems to have been that of unit of revenue collection rather than a territorial unit. Another example of this tendency is to be found in the fact that when the zamindars of a pargana brought Sunderban land under cultivation, they gave it the designation of their own pargana even though it was territorially quite distinct from it. Thus it happens that we find small tracts of isolated land in the south of this district designated in zamindari papers as land of Selimabad, Malai or Sahos parganas. This process seems to have been carried further, so that when the zamindar of one pargana obtained land of another pargana by purchase or partition, he treated the land so obtained as pertaining to his own pargana. It is easy therefore to understand that the importance of the pargana gradually merged in that of the estate or mahal, and sales or transfers of parganas which were common during the period immediately following the Permanent Settlement gradually gave place to transfers of estates or aliquot parts thereof, or of certain defined areas in estates under the designation of mauzas or villages. The great service which the

revenue survey did for the fiscal administration of the province was to crystallize the estate in the Thakbast maps and the village or mauza in the Revenue Survey maps. It is true that the parganas were also recorded in these surveys and the final arrangement of the maps was parganawar, but this was a mere archaic survival and to-day the estate or mahal and the village or mauza are the two important forms of classification for purposes of fiscal administration.

Reference to pargana rates of rent and pargana standards of measurement crop up, it is true, in civil courts; but solely as archaisms, which always survive longer under the ægis of the law than elsewhere, and the Bengal Tenancy Act by its adoption of the expression of "prevailing rates of rent" in section 30 and elsewhere set its seal of approval on the tendency to forsake the artificial criterion of the pargana.

68. The Jaighir lands.—The lands comprised within the 19 Sarkars of Bengal were known as "Khalsa"; over and above these there were lands known as "Akta" or more commonly "Jaighir" lands which were in effect scattered grants for various purposes particularly for the maintenance of military force, and civil dignitaries. These lands of course produced no income to the treasury, but they were assessed at a valuation commensurate with the object of the various grants and entered at this valuation in the total rent-roll of the Subah, which was known as the Asal Tumar Jama, *i.e.*, the original established revenue of Todar Mall.

69. Mogul reassessments.—After the conquests of Man Singh had extended the frontiers of the Subah of Bengal, a reassessment of the revenue became essential; this was carried out by Sultan Suja in 1658 A. D. and resulted in an increase of the number of sarkars from nineteen to thirty-four and the number of parganas was at the same time increased to 1,350. Of the newly formed sarkars, the only one which requires reference here is the 32nd sarkar known as "Maradkhana" or "Jeradkhana". This sarkar appears to have covered a part of the waste portions of the Sunderbans which produced an income of 8,454 sicca rupees from two sources termed, quaintly to modern ears, parganas Akla or pasturage and Bunjer or forest produce. This

assessment remained in force till 1722 when it was radically altered by the Viceroy Murshid Kuli Khan who divided the province of Bengal into thirteen large territorial divisions entitled *chaklas*. The identity of the old *sarkars* was however preserved though they were rearranged, and in some cases split up, into the new *chaklas*. The *pargana* unit was still maintained, but the number of *parganas* was increased to 1,660 partly by addition of conquered territory and partly by subdivision of old *parganas*.

The whole of the old *sarkar* of Khali-fatabad, with part of Satgaon, were combined into *chakla* Jessore, which must have included practically the whole of the then cultivated portions of Khulna district. Mokimpur, a *pargana* covering the bil area in the north-east of the district created apparently since Todar Mall's time, fell into *chakla* Bhusna and Selimabad into *chakla* Jehangirnagar. At this period began the transition from the territorially compact *sarkars* to the more scattered *zamindaries*. In other words a personal element was introduced; it was no longer a question of how much revenue will a certain hundred square miles produce, but how much revenue will a certain *zamindar* pay. The *chaklas* were framed generally with regard to the limits of *zamindars'* estates and formed the transition to the assessment by *ihitimams* or large estates and *mazkuri* or small scattered estates which was made only six years later by Sujah Khan in 1728. At this period the majority of the cultivated area of Khulna district was in the hands of the Chanchra Raj family and was known as the Isafpur estate. The history of this family is so bound up with the fiscal history of the district that some account of it is necessary here.

70. The history of the Chanchra Raj.—The family traces its descent to one Madhab Singha who held land in Fatehsingh *pargana* in the present Murshidabad district early in the 16th century. Before the end of that century, his two grandsons had been dispossessed of their ancestral property by one Sabita Ray who was granted the *pargana* of Fatehsingh by the Mogul Emperor for assistance rendered to his general Man Singh. Both grandsons were thus driven to seek their fortunes elsewhere, and the younger, Bhabeswar Singha, took service with the armies of the Emperor Akbar under Azim Khan. Tradition relates

that he distinguished himself in a battle fought near the present Basirhat against the armies of the celebrated Sunderban king Pratapaditya and was as a result appointed a sort of warden of the marches near Keshabpur in Jessore, which was then the northern frontier of Pratapaditya's domains, with a *jaighir* of four *parganas*, viz., Saidpur, Imadpur, Muragachha and Mullickpur. Bhabeswar died in 1588 A. D. and his son Mahtab Ram succeeded him. In the wars, which eventually ended with the defeat of Pratapaditya, Mahtab aided the Mogul Emperors' armies, and was confirmed in the *zamindarship* of the *parganas* which his father had held, but no longer as a *jaighir*, for they were assessed to revenue about the year 1612 A. D. He died in 1619 and was succeeded by his son Kandarpa Ray, during whose lifetime the *parganas* of Datia, Kalishkhati, Bagmara, Islamabad, and Shaj-atpur were added to the family possessions. At this time the Mogul Emperors began to adopt a system of realising the revenue of smaller *parganas* through the agency of the greatest of the neighbouring *zamindars*, and Kandarpa was appointed to realise the revenue of the smaller *parganas* adjacent to his *zamindari*. When these *parganas* fell into arrears of revenue, Kandarpa purchased them, and this practice was continued and elaborated by his son Manohar Ray, who succeeded him in 1649, and his grandson Krishna Ram, who succeeded Manohar in 1705. There is considerable ambiguity about the dates when the various *parganas* were acquired, for the available lists do not agree in this matter. The following is an extant list of *parganas* acquired by the Chanchra family between 1649 and 1729: Ramchandrapur, Chengutia, Isafpur, Malai, Tala, Bhatla, Sobna, Phalua, Sripati Kabiraj, Kalikata, Paikan, Manpur, Silimpur, Panoan, Buro (Buran?), Rangdia, Rahimabad, Sayedmamudpur, Maguraghona, Bherachi, Raimangal, Bonder Mukundapur, Sri-padgaha, Hosseinpur, Nurnagar, Sahos, Sobnali, Bajitpur, Rahimpur, Islamabad, Bekar Raja, Dhuliyapur, Shahapur, Moheswarpasha.

This period was the culminating point of the fortunes of the Chanchra family; after the death of Krishna Ram in 1729, the dismemberment of the estate began. The first great act of dismemberment was the separation of four annas share by

Sukh Deb Ray, son of Krishna Ram, who in 1731 at the instance of Monohar's widow conferred this share upon his brother Shyam Sundar. This was the foundation of the separate estate now known as the Syedpur Trust Estate, of which the Collector of Khulna is agent; the history of this estate will be referred to in more detail later. Apart from the separation of the four annas share, certain parganas, including Kalikata, Paikan, Manpur, Silimpur, Panoan, and Buran, had been transferred from the estate between 1715 and 1729.

This period covers the settlements of 1722 and 1728 referred to above, when the estate as then existing was consolidated in chakla Isafpur or Jessore, and six years later into the ihtiman of Isafpur.

Sukh Deb Ray died in 1745 and was succeeded by his son Nil Kanta Ray; it was at this time that the decline of the Isafpur estate which began with the separation of the Syedpur estate, acquired momentum. The main reason of this was the large expenditure incurred by Sukh Deb and Nil Kanta, and continued by Nil Kanta's son Srikanta, on religious and pious objects, both in the form of construction of sacred buildings and in alienation of property as rent-free grants. Ultimately in the time of Srikanta Ray, who succeeded Nil Kanta in 1764, the Committee of Revenue were obliged to interfere, presumably in the interests of Government revenue. An enumeration of the Raja's debts compiled by the order of the Committee in 1784 shows that they then amounted to Rs. 30,000. Six years later the decennial settlement took place which became permanent in 1793. At the time when the Committee interfered in the Raja's affairs, the total Government revenue of the Isafpur and Syedpur estates together would appear from Grant's appendix to the "Fifth Report" to have been Rs. 3,50,592. At the decennial settlement the revenue of these two estates was fixed at Rs. 3,92,955, *i.e.*, an increase of over Rs. 42,000.

71. The Permanent Settlement.—It is a part of the general revenue history of Bengal, rather than of any particular district, to describe the principles on which the decennial settlement was based. A brief description of them, together with their application to the Isafpur estate in particular, is all that can be given here.

The basis of the settlement was the existing assets of the estate as determined, by the most up-to-date information in possession of the Collector, subject to certain additions and deductions. The most important additions consisted of the previous alienations from the estate in the way of rent-free grants, or grants of money for religious and charitable purposes. Elaborate principles were laid down for decision as to whether these alienations were to be regarded as rightfully deducted from the assets of the estate or whether they were to be included in the assets. These principles were subsequently embodied in the Resumption Regulations XIX and XXXVII of 1793, which were framed partly with the object of enabling the zamindars to recover for themselves the proceeds of these alienations which had been included in the assets of the estate at the decennial settlement and partly with the object of enabling Government to assess to revenue such grants as had wrongfully escaped inclusion in the assets. The main additions to the assets of the Isafpur estate were Rs. 13,674 spent by the Raja for temple service and Rs. 5,043 hitherto excluded from the assets of the estate as "briti" or stipendiary lands for the private purse of the Rani.

Apart from these additions to the assets, there were minor amounts added for various purposes, *e.g.*, Government undertook for the future to pay the kanungos employed for the keeping of the zamindars' accounts—so a sum equivalent to the pay of the kanungos was added to the estate assets. The deductions from the assets fell into two main heads. Firstly certain tenures or taluks hitherto regarded as subordinate to the estate and paying revenue to the zamindars, were separated and allowed to pay revenue direct to Government, thus entailing a diminution of the estate's assets. The taluks are now known as kharija or separated taluks and bear a separate tauzi number in the Collectorate. I have not been able to trace any account of the taluks thus separated from the Isafpur estate.

The other deduction from the assets arose from the decision of Government to abolish the "saiyar" duties, *i.e.*, duties in the nature of "octroi" and "tolls" levied by the zamindars apart from their collections of land rental. The most important of these duties were

the tolls levied upon "hâts" and "gunges," *i.e.*, market places within the zamindari. Government having decided to abolish these duties, deducted the total value of these collections from the assets of the estate. The zamindars welcomed the deduction from the amount which they had to pay as Government revenue and in most cases went on quietly realising the duties as of old. The amount of the duties in the Isafpur estate was estimated, at the time of the decennial settlement, as Rs. 4,493.

The assets of the estates having been determined by the above methods, Government proceeded to settle the zamindars allowance. The assets were divided into eleven parts, of which the zamindar received one part and Government ten parts; the ten parts so calculated were the revenue of the estate or the sum annually demandable from the zamindar. This, as noted above, was Rs. 3,92,955 for the Isafpur and Sayedpur estates combined, *i.e.*, Rs. 3,02,372 for the former and Rs. 90,583 for the latter.

72. The assessment of the Isafpur estate.—In view of the subsequent ruin of the Isafpur estate it is of interest to enquire whether the assessment of the Permanent Settlement on this estate was inequitable. On the one hand we have Grant's estimate made in 1788 and reproduced in his appendix to the Fifth Report in the following words: "In all events the recoverable deficiency in the rental of the zamindari entire as here described, in its two divisions of Yasufpur and Sayedpur, cannot be estimated at less than one lakh of sicca rupees": in other words Grant considered that the estate was assessed at about a lakh of rupees less than it could bear.

On the other hand we have the undoubted fact that within a few years of the decennial settlement, which involved an increase of Rs. 42,000 only, as noted above, in place of one lakh, and in spite of the powers given to the zamindars by the resumption regulations to recoup themselves for a considerable portion of the added assessment, the Isafpur estate was irretrievably ruined.

If Grant was correct or even approximately correct, the assessment was not inequitable for it amounted to less than half the increase which his researches into the accounts of the estate led him to

believe that it could bear. But if Grant was correct how came it about that four years before he wrote, the Committee of Revenue were constrained to take action in the case of the Raja's debts amounts to Rs. 30,000—an inconsiderable sum for a zamindari paying several lakhs of rupees as revenue.

The explanation is probably two-fold. Firstly Grant took no account of the large sums which as described above were spent by Sukh Deb, Nil Kanta, and Sri-kanta on religious purposes. Certain grants could be, and were, invalidated by the resumption regulations, and the Raja could have legally resumed these grants. But human nature and particularly pious human nature stood in the way, and it is certain that very little use was made of these resumption regulations by the zamindars. Furthermore no enactment could turn back into hard cash the large sums spent on religious and other edifices.

Secondly the punctual realisation of Government revenue, provided for by a series of Sale Laws was a new feature in the administration and entirely upset the agelong habits of procrastination of payment. It is a part of the general revenue history of Bengal to describe how the zamindars failed to realise from their tenants the demands whose payment was promptly enforced by Government and how the "haftam" and "panjan" (Regulation VII of 1799 and Regulation V of 1812) were enacted too late in most cases to do anything except to enable a ruined and embittered landlord to wreak a tardy vengeance on his tenants.

In the Isafpur estate the effects of the Permanent Settlement were not long in appearing. As early as 1795 the estate was notified for sale for default in payment of revenue but the evil day was postponed. The following year pargana Malai was sold under the Board's orders and in 1797 Rangdia, Jatia, Ramchandra-pur, Chengutia and Emadpur were also sold for default of revenue. Sahos, Saidpur, Rasulpur and part of Isafpur were lost about the same time, the former by private sale, and the three latter apparently under orders of the civil court. Finally in spite of the Raja's efforts to make money, some of which were of a distinctly discreditable nature, the peripeteia was complete in 1798 when the rest of the estate was sold up, and Raja Srikanta died, leaving a widow and minor child, Bani Kanta, in destitution.

They were supported by Government for some time until success in litigation regained for the family their share of Syedpur pargana and the whole of Imadpur, and later on Sahos pargana was restored to Bani Kanta's son Barada Kanta by Government into whose hands it had come by forfeiture on the ground of a fraudulent auction sale. Barada Kanta was made a ward of court and the estate during the wardship and after its release, under the capable management of Barada Kanta, regained some of its ancient glory. The history of the family reads like a Greek tragedy, and gives strong support to the view that the decennial settlement was too hastily made permanent without adequate knowledge of the zamindars' resources and with too great reliance on doctrinaire legislation which took but scant account of the temperament of the people it was designed to benefit.

73. The smaller zamindaris.—The same fate as overtook the great Isafpur estate after the Permanent Settlement befell all the neighbouring smaller estates with two exceptions, namely, the Syedpur four annas estate and the estate of Sultanpur Kharoria. These exceptions are of interest particularly in the case of the Syedpur estate, whose history shows that under capable management it was possible for estates to pay the revenue assessed at the decennial settlement with the punctuality required by the Permanent Settlement Regulation. Had all the zamindars been of the calibre of the owners of this estate the débâcle which ensued in the great zamindaris at the end of the 18th century would have been avoided. But the framers of the Regulations confused the ideal with the real: the well-known homily in Regulation I of 1793 "To discharge the revenues at the stipulated periods without delay or evasion and to conduct themselves with good faith and moderation towards their dependant talukdars and raiyats are duties at all times indispensably required from the proprietors of land," etc., proved vain words; and the legislation intended to "promote the future ease and happiness of the people" (Regulation I of 1793 Art. VI) proved in most cases a source of ruin to the proprietor and oppression to the tenants.

74. The Syedpur estate.—The exceptional cases of the Syedpur and the Sultanpur Kharoria estate merit some notice. As described above, it was in 1731 that Sukh Deb Roy, zamindar of

the Isafpur Estate, conferred four annas share of the estate on his brother Shyam Sunder at the instance of his grandmother. Shyam Sunder held this four annas estate (which was known as the Syedpur estate from the name of the pargana in which much of the share fell) till his death in 1750 when he was succeeded by his son Ram Gopal, who died childless in 1757. On December 20th, 1757, Mir Jafar conferred 24-Parganas near Calcutta upon the English as a part of the bargain by which he succeeded Seraj-ud-dowlah. Among the lands so conferred was a jaighir belonging to Mirza Mahomed Sala-uddin, the Foujdar of Hooghly. In order to compensate the Foujdar for the loss of his jaighir Mir Jafar, observing that the Syedpur estate was left ownerless by the death of Ram Gopal without issue, conferred the estate upon him in return for the land taken for the English. After Sala-uddin's death, the estate was managed by his widow, Manujan, a remarkable woman of considerable force of character and with business instincts which were perhaps due to her descent from an Ispahan merchant. She held the estate through the crisis of the Permanent Settlement, and at her death in 1803 made it over intact to her step-brother Haji Mohamed Mohsin. The importance of the history of the estate does not end with its successful emergence under the guidance of Manujan from the difficulties of the Permanent Settlement, for the estate is now under the trusteeship of Government with the Collector of Khulna as the agent of the estate. This befell in the following manner.

HISTORY OF THE SYEDPUR ESTATE.

75. The Mohsin endowment.—Mahomed Mohsin, a man of great learning and piety, executed a deed of endowment in respect of the four annas estate and of certain other property in Hooghly district dedicating this property for religious purposes. This deed was executed in 1806 and ran as follows:—

"I Haji Mahomed Mohsin, son of Haji Fuzulla, and grandson of Haji Fuzululla of Zilla Hooghly, being in a sound state of mind and judgment in the faith of God, do hereby declare this to be the last Will and Testament.

"The zamindari of pargana Syedpur in the district of Jessore and pargana

Sobnali in the same district, also a dwelling-house in Hooghly designated Imambara, Imambazar Hat, Hooghly, and the furniture, etc., of the Imambara as per separate list have descended to me by inheritance, and are now in my possession. Having no children, nor relatives nor connexions who could inherit my property, and it being incumbent on me to keep up the religious obligations of my faith, which have been kept up and observed from my ancestors, I do, therefore, bequeath and endow all my worldly possessions for religious purposes and for the expenses as herein after mentioned.

“ I do hereby appoint Rajab Ali Khan, son of Sheik Mahomed Siddique, and Sakir Ali Khan, son of Ahmed Ali Khan, who are good men and known to me Matwalis. That the said Matwalis, with the consent and advice of each other, are jointly to perform the trust herein reposed in them in the manner following:—

“ That the Matwalis, after the payment of Government revenue, are to divide the remainder into nine shares, three of which are to be appropriated for the performance of the Imambara, the Mohurram festival, and the repairs of the Imambara and the Prophet's tomb. That two shares the two Matwalis are to appropriate to themselves equally for their own use and that four shares are to be appropriated for the amlahs of the establishment and those whose names appear in a separate list under my seal and signature. The daily expenditure, the pensioners' allowances, the expenses of respectable people, and the expenses of the peons and others, present incumbents, are left to the discretion of the Matwalis to continue or otherwise after my death; and all power over my property is vested in them in trust for the purposes above stated; and should the Matwalis consider themselves incapable of performing the trust herein confided in them, they can transfer their power as Matwalis to others.”

In accordance with this deed, the endowment property remained under the control of two trustees till 1816, when owing to quarrels and dissensions among them, Government made use of Regulation XIX of 1810 to take charge of the estate in order to save it from ruin. The former trustees were relieved of their duties, and Government eventually took

over the duties of one trustee; it was at the same time decided that the other trustee should be a Muhammadan of the Shia sect whose duty would be to control the expenditure of the Imambara. Government has little concern with the latter trustee beyond paying to him the due amount for the expenditure on the Imambara in accordance with the term of the endowment, but the administration of the four annas estate is still under the control of Government with the Collector of Khulna as agent, and is one of the important duties of the latter. This appointment of fresh trustees did not end the estates trouble, for shortly afterwards the cutcherry near Jessore and all records were burnt by an amlah who absconded. This necessitated a fresh settlement of the estate, and in 1823 and 1824 the bulk of the property was given out in patni settlement, and the premia or *salami* realised for these settlements were combined with existing accumulated cash assets of the estate into a fund which totalled Rs. 10,57,000: this fund was invested in Government securities. By a decision of the Governor-General (Sir Charles Metcalfe) in 1835, this fund was made into the nucleus of a Trust Fund, and to it was added the one-ninth share, which had been previously paid to the trustee, whose duties Government had taken over. The four-ninths share appropriated under the will to establishment and pensions remained liable for those charges but, when they lapsed, the surplus income was to be added to the Trust Fund. After provision had been made for repair of the Imambara and other necessary building charges had been met, the income of the fund was applied to the establishment and maintenance of Hooghly College open to members of all religious communities. As however Muhammadans benefited to a comparatively small extent by this use of the Trust Fund, it was decided by Government in 1873 that the fund should be devoted to the advancement of Muhammadan learning throughout Bengal. It has since then been used for payment of fees of Muhammadan students, appointment of Persian teachers and for other similar purposes in connection with Muhammadan education.

Apart from the Trust Fund, the current income of the estate provides a sum of Rs. 60,000 annually, which is devoted to the purposes specified in the will. As explained above, one-ninth *plus* the lapsed portion of four-ninths goes

into the Trust Fund, and of the remaining four-ninths the Matwali for the time being receives one-ninth and the other three-ninths is controlled by a committee established under Act XX of 1863 for supervision of the endowment for religious purposes in accordance with the terms of the will.

76. The administration of the Syedpur estate.—The estate consists of three

tauzis borne on the **Khulna Tauzi Roll**. Two of them, *viz.*, tauzis 188 and 175, correspond to the shares of parganas Sayedpur and Sobnali mentioned in the will. The third is a small resumed alluvial accretion called Chor Bhadra Nadi, bearing the Tauzi No. 571; it is now let out in permanent tenure right. The following table shows the existing Government revenue and the demand from the estate:—

Tauzi No.	Name.	Area.		Government Revenue.	Cesses.	Demand without interest.		
		Acre.	Dec.			Rent.	Cesses.	Total.
188	Zamindari Syedpur Trust Estate.			Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
				93,972 8 9	22,379 1 3	1,77,024 3 11	18,984 9 1	1,96,008 13 1
		<i>In Khulna District.</i>						
		186,187	15					
		<i>In Jessore District.</i>						
175	Zamindari Sobnali Syedpur Trust Estate.							
		67,280	88					
		253,168	93					
571	Bajeapti Taluk Bhadra Nadi Char Lapta Sobna.	31	45	30 7 8	5 6 0	33 13 10	5 4 9	39 2 7
Total		258,181	67	95,146 4 2	22,881 7 3	1,80,922 12 4	19,338 15 7	2,00,061 11 74

For administrative purposes, the estate is divided into "lots", which may be either patni tenures held under the estate, other tenures not held under the patni regulation, or raiyati mahals. A broad distinction is drawn between the patni lots and

the other lots which are grouped together as "khas tenures". The following table shows the distribution of the lots among the tauzis and their existing demand:—

Name of Estate.	Rent demand.						Cess demand.				Total rent and cess demand.			
	Lots.	Patni.	Lots.	Farmed.	Lots.	Khas.	Lots.	Patni.	Farmed.	Khas.	Total.	Patni.	Farmed.	Total.
Zamindari Syedpur Trust Estate.	144	Rs. A. P. 1,29,938 10 2	..	..	50	Rs. A. P. 47,985 9 91	194	Rs. A. P. 1,77,024 3 11	..	Rs. A. P. 11,973 10 4	Rs. A. P. 18,984 9 1	Rs. A. P. 1,44,912 4 6	..	Rs. A. P. 51,096 8 61
Zamindari Sobnali Syedpur Trust Estate.	4	1,927 13 7	..	..	7	1,636 12 8	11	3,564 10 3	..	316 8 0	449 1 9	2,244 5 7	..	1,769 6 5
Char Bhadra Nadi	..	....	..	..	1	13 13 10	1	3 13 10	..	....	5 4 9	....	..	39 2 7
Total ..	148	1,31,866 7 9	..	..	58	48,756 4 34	206	1,80,622 12 4	..	15,290 2 4	19,498 15 7	1,47,156 10 1	..	52,905 1 61
														11 74

The 58 Khas Tenures are made up as follows:—

5 Lots Resumed Lakheraj.

29 Lots Resumed Chakran.

24 Lots called Khas Mahals, but actually including the following permanent tenures:—

Lot No.	Name of Tenure.	Thana.	Area	Rent.	Cess.
				Rs. A. P.	Rs. A. P.
161	Sychatty ..	..	..	1,373 14 9	92 0 9
163	Kashipur ..	..	..
164	Tentulla ..	..	..
178	Bil Gandimari ..	..	..	469 9 0	73 6 0
182	Malikhana ..	..	..	25 12 4	.....
185	Chak Chari Jeol-tala ..	..	..	350 14 0	54 13 3
186	Chak Badur-gacha ..	..	..	294 8 0	27 4 3
187	Chak Bagachra ..	..	..	160 2 6	21 11 0
188	Bil Pabla ..	..	..	4,750 0 0	676 5 3
189	Bil Dakatia ..	..	..	427 9 0	144 5 0
7	Sankariganti ..	..	..	426 14 8	42 15 9
	Total ..	..	..	8,279 4 3	1,102 13 3

The balance of the Khas Mahal lots are held under raiyati collection which is distributed among collection circles in the following way:—

Tahsil Circle.		Rent.	Cess.
		Rs. A. P.	Rs. A. P.
Sobna ..	..	9,417 0 5½	950 13 10
Jessore ..	..	8,613 9 6	497 14 0
Moheswarpasha ..	..	9,091 13 4	739 9 2
Khalishpur ..	..	13,354 8 9	857 11 0
Total ..	..	40,477 0 1	3,046 0 0

77. The Syedpur patni tenures.—It should be noted that the income of the estate as given in the above tables is liable to alteration as a result of proceedings under section 105 of the Bengal Tenancy Act. The patni tenures are of course "mokarrari", *i.e.*, their rents cannot be enhanced, but the question of the enhancibility of the khas tenures and raiyati rents has been a subject of considerable litigation in the past which has ended partly in favour of the estate and partly in favour of the tenure-holders.

The question arose in 1909 in the course of petty settlement proceedings under the Bengal Tenancy Act in Dihis Moheswar-pasha and Siromoni. Most of the tenants of the estate vigorously resisted

the proceedings under section 105 which were instituted by the estate in order to secure enhancement of rents. Several cases were fought out up to the High Court, and after protracted litigation, the tenants were in the majority of the cases successful in resisting the enhancement. In other cases however compromises were entered into by which the rents were enhanced. It cannot therefore be said that the principle of non-enhancibility of rent has ever been affirmed or admitted in respect of the tenancies of these dihis; further discussion of the question would be premature as at the time of writing it is still open to the estate to institute proceedings in these dihis under section 105.

One of the original patni tenures in Mauza Khesra in Satkhira subdivision was purchased by the estate in a sale under the Patni Regulations in 1888, and was then made subject of a petty settlement under the Bengal Tenancy Act. During the present proceedings, the tenure-holders and raiyats claimed mokarrari right. The cases were complicated by the fact that in many cases the petty settlement records showed tenures to be permanent, but were silent as to the question of fixity of rents. In such cases the estate claimed that under section 115, Bengal Tenancy Act, it was not now open to the tenants to claim the benefit of section 50, Bengal Tenancy Act; but this contention was disallowed for in the absence of a vital entry such as fixity of rent, it seemed impossible to hold that the condition laid down in section 115, Bengal Tenancy Act, had been complied with. All cases were therefore treated on their merits; in particular the rents recorded at the petty settlement proceedings were tested by entries in the jama wasil baki papers of the estate dating back to 1227 B. S. and where the rate of rent of identifiable tenancies had clearly been altered since then the claim of mokarrari was disallowed; in other cases it was generally allowed, the provisions of section 50 being applied where the existing jama could not be clearly identified in the old jama wasil baki papers.

78. Sultanpur-Kharoria.—Apart from Syedpur, the only other notable exception to the ruin of the old estates after the Permanent Settlement was the estate of Sultanpur-Kharoria, which lies mainly in the north of Bagerhat subdivision. The early history of this

pargana is obscure; tradition relates that it was given to one Janaki Ballabh together with pargana Belpulia by Raja Pratapaditya. In the year 1774 the estate was in the hands of Krishna Chandra Ray Chaudhuri whom the family tree of the Mulghor Ray Chaudhuries shows to have been seventh in descent from Janaki Ballabh. In this year on the ground of default in payment of revenue the estate was taken from its owners and under Warren Hastings' orders was settled with one Kasinath Dutt of Calcutta who after some litigation with the former proprietors was finally recognized as the zamindar of the pargana at the time of the Permanent Settlement. The assessment of this estate in 1790 was exceptional, for the Collector did not increase its assessment on the ground that it had been fixed some time before (*i.e.*, in 1784) by the Governor-General. The estate thus assessed more leniently than its neighbours survived the Permanent Settlement and is still in the hands of the descendants of Kasinath, by whom it has been partitioned into three shares known respectively as the Kharoria Boro Zilla, Mejo Zilla and Chhota Zilla. In 1900 the Mejo Zilla share was formed into a company known as the Kharoria Mejo Zilla Zamindari Syndicate, Limited, which has subsequently acquired a 99 years lease of 4 annas of the Boro Zilla share.

79. The Resumption Regulations.—After the Permanent Settlement, the working of the resumption regulations became the great problem of revenue administration in all districts of Bengal for the next fifty years. In the area under report resumption of surreptitiously cultivated Sunderban land outside the limits of the decennially settled estates overshadowed the resumption of invalid lakherajes or alluvial accretions. In this respect, as in all other questions of revenue administration, the revenue history of the area covered by Khulna district is almost entirely a history of Sunderban administration. This as explained above forms the subject of a separate chapter in this report.

80. The revenue survey.—The great land-mark of revenue administration in this as in every other district in Bengal was the revenue survey in the middle of the 19th century. It was preceded here, as elsewhere, by the thak-bast survey which roughly delimited the exterior

boundaries of village units, and represented the estates occurring within these peripheries in the form of choks (*i.e.*, blocks) on the map. The revenue survey followed the thak-bast survey; in this survey no map was made of the estates, but the village boundaries were accurately mapped and interior topographical details, such as orchards, swamps, groups of houses, etc., were shown roughly *in situ* by conventional signs. Khulna district east of the Kobadak river was then a part of Jessore, and was surveyed along with the rest of that district and with the districts of Faridpur and Bakarganj by a party under Captain Gastrell. The work began in 1856 in Jessore and was continued until the completion of the survey of Bakarganj in 1863. It was not connected at the time with the great trigonometrical survey, which had not then been extended to these districts, but in 1866-67 a series of triangles connecting the East Calcutta Longitudinal with the Eastern Frontier series was carried across this portion of Bengal by Lieutenant Thuillier and several points fixed during the revenue survey were connected, by help of these operations, with the great trigonometrical survey.

West of the Kobadak river in the area now covered by Satkhira subdivision, the revenue survey was part of the 24-Parganas district survey and was carried out about five years before the Jessore survey by Captain Smyth. The only subsequent survey which has affected this district was the Topographical Survey of the Sunderbans by Colonel (then Major) Hirst in 1906—1908. This will be referred to in the part of this report dealing with the Sunderbans.

SYSTEM OF LAND TENURE.

81. Tenures in the older zamindaris.—The system of land tenure in the district is superficially complicated by the fact that it has grown up in three different groups each of which has employed to some extent a separate nomenclature. The underlying principles of development are however the same, and by looking to the principles rather than to the terminology, it is possible to obtain a clear idea of the system. The three groups referred to are the older zamindaris of the west and centre of the district, the newer zamindaris of the south, and the eastern zamindaris where

the influence of the Bakarganj land system is felt.

The history of the Chanchra raj given elsewhere in this report is typical of the conditions under which the older zamindaris grew up. In the earliest dawn of the history of the Ganges delta we find Hindu princelets, such as the twelve Bhuias or autochthonous kings, occupying the territories in the swamps and jungles of the delta which, like Hereward the Wake in Norman times, they had consolidated into kingdoms under pressure of invaders. Under these kings the system of Government was primitive and patriarchal, and though some of the earliest jaighirs or service tenures, and brahmottars or grants for religious purposes date back to their times, there was probably no other form of intermediate land tenure in the sense in which we now use the term. The land belonged to the village community and the King received the royal share of the produce.

The disruption of this archaic state of affairs took place when the spread of the Mogul arms began to reach Bengal, and Muhammadan warriors or their Hindu adherents carved great estates for themselves out of the Bhuias' principalities. The typical instance of this in the present district of Khulna was the carving of the Chanchra raj estates out of the Bhuia King Pratapaditya's dominions. When a jungle principality became a vast zamindari estate, a tenure system became a logical necessity, for on the one hand the zamindar was unable by his direct exertions to realise the revenues of the great tracts with which he was but imperfectly acquainted and on the other hand natural affection or gratitude for service rendered often led him to make grants of land or of the revenues thereof, either for a small annual payment or outright, as it were in fee simple, to his relations or to his servants. "Be thou ruler of twelve cities" he would say in effect and the recipient's taluk was created. If the grantee remained dependent on the zamindar in the sense that he was bound to make him an annual payment, the taluk was a dependent one, and went by a name connoting dependence, such as shikimi taluk, taksimi taluk, patni taluk, or samilat taluk. If however the grant was outright, the taluk became independent and was in effect a small separate estate. It must not be supposed that the creation of independent taluks was entirely the work

of the Permanent Settlement. As is well known many dependent taluks were, at the time of the Permanent Settlement, given independence usually under the name of kharija taluks, but taluks, of this nature had existed long previously. In the list of the parganas of sarkar Khalifatabad given by Abul Fazl in the Ain-i-Akbari, the following names occur:—

Taluk of Kasinath.

Taluk of Srirang.

Taluk of Mahesh Mandal.

Taluk of Parmodar Bhattacharjya.

Taluk of Sripatkiraj.

Kanges Taluk Parmanand.

Such taluks, like the present day kharija taluks, were independent units, and stand as it were at the head of the tree in the system of land tenure. In effect such taluks are equivalent to separate estates, and in examining the system of subordinate land tenures, it must be clearly premised that whatever applies to the estate or zamindari, applies equally to the independent taluk.

82. Abadkari tenures of the south.—As described above, taluks might have been created either for facility in administering the estate, or from motives of natural affection and gratitude. A third ancient type of taluk was the "abadkari" or "jungleburi" taluk, which was created in forest areas by a grant given for the purpose of reclaiming the waste. Such grants have been made by Government as paramount power during the last century and a half, but before that time, the zamindar of an estate containing vast forest tracts frequently made such grants, and many existing ancient taluks are of this nature. In the older zamindaris of the west and centre of the district their origin is shrouded in the mist of time, and they are indistinguishable by incidents or nomenclature from other taluks. But in the southern area where reclamation is comparatively recent, a separate nomenclature has survived, thus giving rise to the second of the three groups referred to above.

83. The eastern tenures.—The third or eastern group comprises the area where the influence of Bakarganj conditions, manifested mainly in the great pargana Selimabad, is predominant. Eastern Bengal remained undeveloped longer than Western Bengal, and the

Bakarganj system of tenures; as pointed out by Major Jack in the Bakarganj Settlement Final Report, is based upon grants made for reclamation of jungle. "Under the head of development", he says, "may be included all intermediate tenures, which were granted in forest or waste land for the purpose of bringing it under cultivation. This type of tenure is clearly the stock type of the Bakarganj system, and to this type belong almost, if not all, of the haolas and nim haolas and a large proportion no doubt of the osat nim haolas". Clearly therefore the origin of the southern and of the eastern groups of Khulna tenures was identical, and the existing difference is only one of nomenclature intensified by the fact that subinfeudation has been carried to greater extremes by the restless Muhammadan peasantry of Bakarganj than by the more placid Hindu population, which predominated in the Khulna Sunderbans.

84. Origin of abadkari tenancies.—

Therefore in a conspectus of the Khulna tenure system the fundamental fact is the existence of the dependent taluk, but whereas in the old zamindaris of the north and west of the district there is but an adumbration of the jungle clearing taluk, in the south and east of the district this form of taluk is the predominant feature. The outstanding feature of a jungle clearing tenure is the fact that it gives an unencumbered right to land, whereas the grant of dependent tenures of the other classes discussed above, normally gives only a right to collect rent from persons with existing rights in the land. Grants of tenure right in the grantor's unencumbered or khas cultivated land may under certain circumstances be possible, for instance, when a landlord purchases the lands of a tenant and leases them to his own relations who in turn settle tenants upon them. Such cases are however comparatively rare and were no doubt rarer in the past when tenants were scarcer than they are nowadays. For practical purposes the broad distinction stated above holds good. The jungleburi tenureholder has therefore to settle tenants upon the land and to give such assistance as is requisite for the reclaiming of the waste, whereas the tenureholder of other types has merely to collect rent from men with existing rights in the land. At first sight therefore it would appear that the jungleburi tenureholder who was at liberty to induct

tenants on to the land on such terms as he pleased was in a stronger position with regard to these tenants than tenureholders of the other classes who could not disturb existing rights. But partly owing to the difficulty of obtaining tenants willing to cultivate jungle areas and partly owing to the strong sense of the rights of the first man "who breaks the soil" which is prevalent throughout India, the cultivating tenants of an "abad" or jungleburi grant obtained by custom rights which the law, as it stood when they were inducted, would not have given them. Such tenants in Bakarganj and in the east of Khulna district are known as "karsha" tenants; the growth of their customary rights is well exemplified by the fact that whereas in 1831 Mr. Dampier, the then Commissioner of the Sunderbans, reported that the karshadars in the recently resumed Sundarban estates were "a depressed body with no rights of any sort", the Bakarganj Settlement was able some seventy years later to treat them as the privileged "raiya" of the Bengal Tenancy Act without opposition or objection. In the present settlement operations they have, of course, been recorded as settled raiya without a shadow of objection from anybody. In the southern areas of Khulna district the word "karsha" is not used; the general term for cultivating tenants is "praja", but owing to the looseness of this term (which merely connotes a dependent interest), we adopted the Tenancy Act term "raiya," again without any objection.

In the old zamindaris of the north and west of the district, the raiya were generally in occupation of the land before the process of subinfeudation began, and the new talukdars found them established with all the customary rights which were afterwards crystallized by the Tenancy Acts, particularly Act X of 1859 and Act VIII of 1885. It is to the status of these raiya that the status of the "karshadar" of the east and the "praja" of the south was assimilated, and at the present day the three types are unified not merely in the Procrustean bed of the statute books and law courts, but by the more discerning criterion of tradition and village custom.

85. Subinfeudation.—The above description applies to the simple case of a single tenureholder created under the name of talukdar by the zamindar of an

estate, and of the cultivating tenants holding directly under that talukdar. This is the germ of subinfeudation, and the causes which primarily led to the creation of the taluk have been the main-springs of the further process of subinfeudation. Major Jack in the Bakarganj Final Report deals exhaustively with this process, giving it a six fold origin viz., (a) development, (b) promotion, (c) revolt, (d) interpolation, (e) fraud and (f) family arrangement.

This classification holds good for Khulna district with the qualification that the heads (a) of development and (d) of interpolation are by far the most important. These two heads in effect represent the two types already described as being prevalent respectively in the south and east, and in the north and west of the district. Development includes all forms of tenures created for reclamation of waste, and interpolation in the words of Major Jack covers "all leases by which an intermediate interest is created in land which is already occupied by tenure-holders or raiyats". From the outset the development tenures have received separate nomenclature; in Bakarganj and the east of Khulna district they were known as haolas and in the rest of Khulna district as "grantis". Time has obscured the meanings of these terms to some extent, and the names have been imitated in areas to which they do not strictly apply, but in origin every true haoladar and gantidar, whether he held under the zamindar of an estate or under an abad-kari talukdar or any subordinate tenure-holder, was the man who took a definite block of jungle land for the purpose of settling tenants on it and so clearing and cultivating it. If he found that his resources were not equal to the task of dealing with the whole area of his haola or gant, he sublet a block of land to a nim haoladar or dargantidar, who in turn could sublet a part of his land to an osat nim haoladar or a segantidar. Thus the claim of subinfeudation would run—

Talukdar.

Haoladar or gantidar.

Nim haoladar or dargantidar.

Osat nim haoladar or segantidar.

Kamshadar or praja or raiyat.

At times however between the talukdar and the haoladar a further intermediate stage is found, viz., the osat talukdar. This tenure-holder represents one

to whom the talukdar has assigned, not a block of land for the purpose of bringing it under cultivation but a right, extending over the whole or a part of his tenure, to deal with the area covered by the osat taluk as if it were his own taluk. The distinction between osat taluk and any form of haola may perhaps be expressed by saying that the former is the assignment of interest, while the latter is the assignment of a specified block of land for the purpose of reclamation. An osat taluk might be held in respect of an aliquot part or undivided share of a taluk; a haola could never be so held. At times a tenure similar in nature to the osat taluk is found between the osat taluk and the haola: this is termed a nim osat taluk.

86. Tenures by interpolation and revolt.—Tenures by interpolation presuppose existing grades both above and below; they are less commonly found in jungleburi taluks than in other classes of tenures. An osat taluk, if created after the haolas subordinate to the talukdar had come into existence, would be an interpolated tenure; and it is clear that such a process would occur far more often where there were hereditary tenants than where cultivation had not yet started when the talukdar's right was created. The causes of interpolation were mainly the two referred to above as the causes of creation of tenures in the older zamindaris, viz., (1) inability to manage successfully rent collection in a large and scattered estate and (2) a pious desire to create a beneficial interest in favour of a relation or a faithful servant. An interesting example of such a taluk created before the Permanent Settlement is the Jautuk taluk in pargana Buran. Its name is said to be derived from the fact that it was created by the owner of the pargana in favour of his first-born son, and assigned a rent proportionate to the revenue of the whole pargana; it was thus entirely a beneficial grant and ranks highest among the subordinate tenures of the pargana. A third cause may be added, viz., the desire to capitalize the assets of the estate by creation of subordinate tenures at a high rate of *sakami*. This cause was probably not operative to any great extent till the passing of Regulation VIII of 1819 had placed the relationship of landlord and patni tenure-holder on a definite statutory basis. A notable example of this

was the creation of the patni mahals in the Syedpur estate in 1823 and 1824, thus realising Rs. 10,57,000 as premia or *salami*, which sum is now the nucleus of the Mohsin Trust Fund.

The tenures created by interpolation bear various names and differ in certain essentials. Those which have existed from before the Permanent Settlement are usually known as *samilat taluks*, this term taking the place of the term *shikimi taluk*, which is in vogue in many places in Bengal. A *samilat taluk* is permanent, and its rental cannot be enhanced. Its name appears to be derived from the fact that it was incorporated in (Beng. *samil*) a *zamindari* at the time of the Permanent Settlement. *Taksimi taluks* are the highest grade of tenures found in *pargana Selimabad*. Their name is said to be derived from the fact that they represent a division (Urdu *taksim*) of property, by means of a beneficial lease, between the proprietor and other members of his family.

Patni tenures, including their subordinate tenures *darpatni* and *sepatni*, are tenures generally created after the passing of the Patni Sales Regulation (Regulation VIII of 1819) with the specific object of being governed by that Regulation. They are of course permanent, and their rent cannot be enhanced. Variation of the patni tenures are the "pattai" tenures; both words simply mean "leased", and the latter tenures probably date back to a time when the word patni had not been crystallized by Regulation VIII of 1819. A *miyadi patni* is a lease for a definite term of years: it is, of course, not governed by the Patni Sale Law. The term *sadar patni* is some times found; it appears to apply to the patni lease of either a large area of land or of an aliquot share of a *zamindari*, smaller parts of which had already been leased out in patni. The *sadar patni* is therefore interpolated as a superior interest over the existing patnis. At the present day a new interpolated tenure would on creation normally be styled either a "maurushi" or a "miras ijara". Both terms connote a tenure which is permanent, but of which the rent, in the absence of any stipulation to the contrary, can be enhanced. The *miras ijara* is commonest in the east of the district while the *maurushi* is more frequent in the north, but both may occur together. A variant of the latter is the *kaimi maurushi*; it

is generally considered that the rent of this tenure cannot be enhanced, but the question is not free from doubt.

The tenures classified by Major Jack as owing their origin to fraud and to family arrangement are merely variants of tenures created by interpolation, and could well have been classed under that head. In fact in this particular respect Major Jack's classification is not strictly logical, for fraud and family arrangement are merely two of the objects leading to the creation of certain tenures which belong to the class of interpolated tenures and should not have been ranked as classes parallel to them. Descriptions of them are given in detail in Chapter III of the Bakarganj Settlement Report, and apply equally to similar tenures in Khulna district. The object of the creation of fraudulent tenures is to save the interest of the creator from his creditors who on purchasing it discover that it has been leased to another from whom they cannot hope to recover it without costly litigation. The object of the creation of "family arrangement" tenures is to transfer by perpetual lease to a competent member of the family the interests of women or other persons who cannot themselves conveniently arrange for collecting the rents due to them. Tenures created by revolt are usually termed *jimba taluks*. Their origin lay in the fact that at times the tenants of an oppressive or exacting landlord, as it were, deserted his allegiance in a body and attorned to some person who enjoyed a better reputation, placing themselves within his "jimba" or charge. The recipient of the allegiance either included the revolting tenants within his own tenure or estate or else created a nominal tenure to cover their lands and pretended that he held this tenure in subordination to the deserted landlord. This system appears to have been largely used in Bakarganj, and it is most common in the east of Khulna district, but traces of it are to be found in many parts. The most notorious instance is the case of Char Hoglapasha where the tenants deserted the Banagram zamindars and attorned to the Boukailash raj; in consonance with this revolt every tenant was prepared to swear that the lands of Char Hoglapasha formed part of a village Maheshkura though no such village could be found in thak or revenue survey maps. Litigation went on for some years

chiefly under the preventive sections of the Criminal Procedure Code; eventually during the present settlement operations the true state of affairs has become clear and the tenants appear to have acquiesced in a return to their old allegiance.

87. Tenures by promotion.—Tenures by promotion are essentially growths of Bakarganj Muhammadan pride. No *nouveau riche* more ardently covets a rise in social status than the well-to-do Muhammadan cultivator of that district. As explained above the status of karshadar some seventy years ago was not an enviable one, and the wealthier among those who held that status sought means to improve it by payment of money or rendering service to their landlord. As a *quid pro quo* they received brevet rank of kaim karshadar which implied at least permanency of tenure, and enabled them to sub-lease their lands to Karshadars; by a further rise they could reach the rank of haoladar, a secure and honourable title connecting a reclamer of land. An anomaly has resulted in the present day for where the aspirant was a tenant of more than one landlord, it sometimes happened that he was only able to secure the coveted promotion from one landlord, while the other refused it. In the serista of one landlord he therefore became a haoladar while in the serista of the other he remained a karshadar. In such cases the record of rights was difficult to frame; it was eventually decided that until every landlord recognized the promotion it could not be considered as complete. In such cases the aspirant was given his original status in our record, but a note as to the promotion in one or more seristas was made.

It is probable that many of the osat haolas, nim haolas and other subordinate varieties of haclas owe their origin to promotion, rather than to development by a sub-lease for jungle clearance.

88. Rent-free tenures.—There is little that is peculiar to Khulna district in the rent-free tenures; they are almost entirely absent from the Sunderban tracts, and are confined mainly to the oldest cultivation particularly that situated on the banks of the Bhairab. They may be divided into two classes, *viz.*, (i) Permanent heritable and transferable tenures usually created for a

pious purpose. Examples of this class are—

Brahmottar for maintenance of Brahmans.

Mahatran for maintenance of any other person specially revered by the grantor.

Debottar, for maintenance of idols.

Fakiran for maintenance of fakirs.

Baishnabottar for maintenance of baishnabs (devotees of Vishnu).

Cheragi for upkeep of lamps in shrines.

(ii) The second class of rent-free tenures are the service tenures known as "chakran" tenures, enjoyed, *e.g.*, by barbers, washermen, etc. They are in no way permanent, heritable or transferable, but only subsist so long as the service is rendered to their creator.

89. Cultivating tenants.—The subinfeudation which has been described above represents the intermediate grades between the zamindar and the cultivating tenant. There is something elusive about the status of cultivating tenant for no statute has yet been able to envisage it clearly. The object of tenancy legislation is admittedly to a great extent the protection of the raiyat or cultivating tenant, but it is a fair criticism on the existing Tenancy Act to say that while it does much to protect one man as raiyat, it helps to destroy the rights of many others by compelling them to be classified as tenure-holders or under-raiyats, for it refuses to recognize that there can be more than one raiyat in respect of the same piece of ground. In this respect, it is generally admitted, the Act is at fault, for in actual practice we frequently see two or more cultivating tenants in the chain of subinfeudation, each of whom most surely in the eyes of his fellow villagers, and of his landlord too, possesses the rights which attach to the hereditary cultivator. This is probably brought home to us more in Khulna than in most districts, for Khulna is one of the latest tracts to be reclaimed from jungle, and the cultivator still retains the advantages which accrued to him when he was the sole means of converting his landlords barren acres of jungle grant into rich paddy land. The two main advantages which he thus enjoys are firstly large holdings and secondly customary privileges. A tenant inducted for the purpose of reclaiming jungle is invariably given a

holding of at least several acres in area, and though in the north of the district where jungle cutting is a matter of remote antiquity, the raiyats' holdings are now reduced to the size prevailing in neighbouring districts, the tenants of the newer reclamation still enjoy comparatively large holdings. The following statement shows the average size of an occupancy or settled raiyats holding in the various police-stations of the district:—

Name of police-station.			Average size of holding in acres.
Kalaroa	..	..	1.50
Satkhira	..	..	1.55
Tala	..	..	1.27
Debhata	..	..	1.82
Kaliganj	..	..	2.63
Shyamnagar	..	..	6.78
Asasuni	..	..	4.59
Phultala	..	..	1.05
Daulatpur	..	..	.91
Terakhada	..	..	2.98
Dumuria	..	..	3.04
Baitaghata	..	..	4.63
Paikgachha	..	..	6.62
Dacope	..	..	12.31
Khulna	..	..	1.16
Mollahat	..	..	2.63
Sarankhola	..	..	2.99
Kachua	..	..	2.77
Fakirhat	..	..	1.38
Rampal	..	..	5.73
Morrellganj	..	..	3.93
Bagerhat	..	..	1.99

The figures in this table clearly reflect the fact that the newest reclaimed areas are in Dacope, Paikgachha, Rampal and Shyamnagar police-stations, while the oldest reclamation is on the banks of the Kobadak in Kalaroa and Tala and on the banks of the Bhairab in Phultala, Daulatpur, Fakirhat and Bagerhat police-stations. There is, in fact, a very remarkable degree of coincidence between these figures and the known history of reclamation in Khulna.

Now a raiyat with a holding of six to twelve acres of newly reclaimed land must be a very substantial man if he can continue to cultivate this area himself. Day labour is not to be had in a newly

reclaimed "abad", and plough cattle, if carried off by one of the diseases which attack them in a saline climate, cannot easily be replaced. He therefore sooner or later finds himself obliged to reduce the size of his holding. He does not however do this by an outright sale, for on the one hand he has a distinct sentimental objection to parting with his land, and on the other hand the purchaser will be obliged to pay *salami* to the landlord for recognition of the sale transaction. He therefore prefers to subdivide the holding by a sub-lease to a friend or neighbour who is willing and able to cultivate part of it. Sometimes the lessee pays a considerable premium for the lease and stipulates to pay a rent which leaves little profit to the lessor. The transactions are practically sales the premium being in effect the purchase money. So far is this fiction of a lease carried that in many parts of the district when a tenant wishes to dispose not merely of a part but of his whole holding, he still does not sell it outright but comes to an arrangement with the purchaser that the latter will execute a *kabuliyat* (acknowledgment of lease) in his favour and will thereafter pay the rental of the holding direct to his landlord. The lessor of course receives a considerable premium, in effect the sale price, as a part of the transaction and the fiction of lease is usually kept up by stipulating for a payment of nominal rent to him as his "munafa" or profit over and above the sum paid to the landlord. As, however, he often leaves the locality altogether after the transaction is complete, he rarely realises the nominal rent; the landlord finds himself with a new tenant who tenders the rent in the name of (technically called *marfat*) the lessor. This transaction is known as a "malik barati" lease; it is a well-known and often effectual way of depriving the landlord of the *salami* or recognition fee for the sale of a non-transferable holding.

90. Occupancy right of under-raiyats.
—This fiction of a lease to cover a sale has an important result; the nominal lessees who are really purchasers are recognized as having customary rights equal to those of the vendor lessor. This is perfectly just, for they have stepped entirely into his shoes and often pay his rent to the landlord; its result is the accrual of occupancy right by custom to the under-raiyats, and this accrual appears to have taken place throughout

the district. Considerable care was taken throughout the stage of attestation to enquire into the customary incidents of under-raiyati tenancies, and every Revenue Officer agreed in reporting that in the area where he worked an under-raiyat was regarded as possessed of exactly the same rights and privileges as the raiyat. In fact the under-raiyats are not under-raiyats at all in the sense applied to the term by the Bengal Tenancy Act; they are the second and third grade raiyats whose existence, as pointed out above, the Act refuses to recognize. Occasionally a genuine under-raiyati tenancy was found to have been created by a temporary lease, and such tenancies were recorded as under-raiyati without right of occupancy; but the very great majority of tenancies held under raiyats were recorded as having occupancy right by custom. One of the strongest pieces of evidence of the privileged position of under-raiyats is the prevalence of the custom of granting them permanent leases—in direct defiance of section 85 of the Bengal Tenancy Act; a section which appeared to be wholly unknown to a large number of people in the district, including the Sub-Registrars, who allow the registration of these leases. In the more sophisticated areas a legal fiction is employed by which the lessor raiyat describes himself in the lease as a “maurushidar” or permanent tenure-holder, but in many places the raiyat purports to give a permanent lease to the under-raiyat. In the event of the raiyats holding being purchased in auction sale, it is the custom for the purchaser to serve notices under section 167 of the Bengal Tenancy Act threatening to avoid the under tenancies as innumbrances. As under section 160 of the same Act any right of occupancy is a protected interest, *i.e.*, cannot be annulled at the sale of the superior interest, it looks as if the issue of notices threatening to annul under-raiyati interest is tantamount to denying their customary occupancy right. But in fact, the only object of these notices is to extort *salami* from the under-tenant when his immediate superior's interest is sold; the purchaser has really no more intention of evicting the under-raiyat, or belief in his power to do so, than the landlord who demands *salami* from the son who succeeds to his father's heritable raiyati holding. No authenticated instances of the eviction of an under-raiyat, after issue of notice under section 167, Bengal

Tenancy Act, came to light during the settlement operations in this district.

The under-raiyats of the district may therefore be said to possess occupancy right by custom, and there is every reason to believe that the accrual of this right is connected with the subinfeudation of large raiyati holdings in newly reclaimed areas in the manner described above. Furthermore it appears that the under-raiyats of this description are not true under-raiyats, but are second and third grade raiyats, and only fail to be described as such because the Tenancy Act does not recognize their existence. Such raiyats are termed *kol karshadars* in areas where the Bakarganj nomenclature prevails; elsewhere in the district they are known as *korfa raiyats*. They extend to several degrees, in exceptional cases, to as many as five or six.

91. **Customary rights of tenants.**—It was stated above that in addition to the privilege of large holdings, the jungle-clearing raiyat has other customary privileges. There is no stronger title to privilege in the villager's mind than the fact that he or his forefathers cleared the jungle. Not once but many times while enquiring into village rights and customs I have heard it reiterated that such and such a right lies with such and such a man because he is an “*abadkari praja*”. The jungle-clearing tenant, once he is established on the land, has more rights than his brother of the older cultivated areas. The latter often may not cut down trees or dig tanks without his landlord's consent; it is the first duty of the Sunderban tenant to cut down trees and if he cares to dig a tank in those saline tracts, no landlord, however exacting, will say him nay. In regard to *salami* on transfer of holdings, he is expected to pay something for an outright purchase for nowhere in the district are occupancy raiyats' holdings recognized as transferable without the landlord's consent, and this consent usually depends upon the payment of *salami*. But in as much as tenants in Sunderban clearings are often in demand, the landlord is usually willing to give his consent to the transfer upon the payment of a nominal *salami*. In the older cultivation of the north where the demand for land is great, the rate of *salami* has in some cases been raised by exacting landlords, but on the whole throughout the district the rate is low and is often adapted to the means of the tenant purchaser. In the case of a few

big absentee landlords as much as 25 per cent. of the purchase price is paid, but this is abnormal for the district. Similarly in these areas the landlords have introduced the custom of levying payment from a raiyat who cuts down valuable trees. This payment is however not high for it ranges from $\frac{1}{4}$ of the value of the wood to a rupee or two. All trees, except "valuable" trees, may be cut down by the raiyat without objection, but there is a great diversity of opinion as to what constitutes a valuable tree. The matter is entirely regulated by local custom; in one village a cocoanut palm may be cut down without the landlord's consent, in another village his consent is necessary; the same is true of babul trees (*Acacia Arabica*) and of many other trees which could be named. In the north of the district and in most of the older cultivated areas the landlord's consent is required if a tenant wishes to excavate a tank, but the consent is usually given upon payment of a few rupees.

92. Non-resident raiyats.—The raiyat of Khulna district may therefore be said to be generally favoured by custom, and there appears to be every reason for connecting his privileges with the preferential treatment which a raiyat in a newly reclaimed area soon wins for himself. Tenants are in demand in such areas, for it is not everyone who has the hardihood or the necessary means to cope with the dangers and difficulties of reclamation. It is often impossible to find tenants willing to reside on the land, but as Sunderban paddy cultivation—both sowing and reaping, takes place a month or more after that of normal tracts, the landlord is able to find tenants who are willing to cultivate Sunderban lands after they have finished the cultivation in their own villages. Such tenants may have a definite and permanent right in the land, but there is a tendency to look upon them as "palkahst" or alien raiyats as opposed to the "khudkahst" or resident raiyats of the estate. Some of them execute temporary leases in favour of their immediate landlords and after the expiry of the lease give up all connection with the land. Such tenants are known as "pattanias" or lease-holders and properly fall within the definition of the non-occupancy raiyat of the Bengal Tenancy Act.

93. Eksona tenancies.—The analogy of these short term leases has however

had an unfortunate effect; so long as the lease-holders are absentees whose Sunderban cultivation is merely a supplement to their upland cultivation, there can be no harm in regarding them as an inferior class of raiyats without permanent rights in the soil. But nowadays in default of such absentee lessees, landlords of certain estates have taken to leasing vacant land to resident raiyats of the estate upon yearly terminable leases which they term "eksona", "batsar bandi", "sonkarari" or "nagdan" leases. To regard such leases as temporary and terminable is directly opposed to the provisions of the Bengal Tenancy Act, which provides that occupancy rights accrues to the settled raiyat of the village in all land which he holds in that village. This system of yearly leases is a deliberate infringement of the provisions of the Tenancy Act on the part of the landlords, and in framing the present settlement records, we gave occupancy status in all land held under such leases by settled raiyats of the village.

It should be made clear that this system of leases is by no means general; it has been adopted by certain more or less upstart landlords, Pharaohs that knew not Joseph and are unmindful of anciently earned privileges of the abadkari tenant. The system only flourishes in areas where the great fertility of the reclaimed Sunderbans makes competition for land keen among a growing population, and it is to be hoped that the settlement operations will have opened the eyes of the tenants to their rights: hitherto they have, with a few exceptions, ignorantly surrendered the benefits which accrue to them from the Tenancy Act.

94. Utbandi.—There is no real utbandi in this district. In the great bil areas where the amount of cultivation depends every year upon the extent to which the bil dries up, there is a system of assessment of rent in accordance with the area cultivated each year by the tenant. In only two villages, one in Satkhira subdivision and one in Bagerhat, was any attempt made by the landlords to assert that the tenancies were utbandi; in both cases local enquiry showed that the boundaries of the holdings were known and defined, and the tenant's annual cultivation, though fluctuating in amount according to the state of the water, was definitely confined within those limits. The tenancies did

not therefore satisfy the criterion of utbandi adopted by the Settlement Department (*vide* Technical Rules, 1925, reprint, page 81, *et seq*), and they were consequently treated as ordinary tenancies. Furthermore though tenancies of this nature exist sporadically throughout the great bil tracts, there is no evidence that the custom of utbandi prevails in this district, and hence the conditions of section 180 (a) of the Bengal Tenancy Act are not satisfied. These tenancies are known as *charcha* or *hal hasila* in the district; the word *utbandi* is not in general use, though I remember seeing it once in some old zamindari papers in Satkhira subdivision. In view of the fact that the great bils are getting shallower every year, particularly in areas where the silt laden Madhumati water penetrates, it is fortunate that the zamindars were not able to substantiate their claims as regards utbandi tenancies; had they been able to do so, in a few years' time, there would have been a multitude of tenancies, practically devoid of legal rights, in tracts of land indistinguishable from ordinary low-lying village land.

95. **Borgádárs.**—Produce rents are of two types in this district corresponding to the two types usually found elsewhere in Bengal. The first type is where a definite share, usually but not invariably a half, of the produce is paid. These bear the common name of *borga* tenancies. The *borgadar* in this district possesses practically no rights in the land; he is purely a tenant at will. Whether he holds the land for one year or for several years in succession, he and everybody else in the village fully recognizes that he is bound to vacate it if so directed by his immediate landlord. It is not easy to determine why the *borgadar* should be so devoid of customary right here; the fact remains that after careful enquiry by every attestation Officer, the above conclusion was unanimously arrived at, and it fully coincided with the opinion I had formed, based upon previous experience of trying criminal appeals in land disputes, where the *borgadar* usually figures as the cat's-paw of the rival claimants. In a few cases where land of absentee tenure-holders had been held by the same tenant for many years in succession upon payment of a share of the produce, the tenancy was recognized as having occupancy rights.

96. **Gulo tenancies.**—The second type of produce rent is where a definite amount of rent in kind is paid. These tenancies are usually known as *dhankarari* throughout Bengal, but in the centre and east of Khulna district they are known as *gulo* tenancies. They are generally unpopular with the tenants, probably owing to the idea that the rise in the value of produce has automatically caused considerable enhancement of their rent. This is true in a sense, but actually of course the tenants are paying no more for their land than before, and are obtaining greater value in the balance of the produce which they retain. In cases however where the soil has deteriorated and the outturn is consequently less, the payment of *gulo* rent is a great hardship. At times, particularly in the south-east of the district where this system is particularly prevalent, the landlords realise the cash market value of the stipulated produce in lieu of the produce itself. All *dhankarari* and *gulo* tenancies were treated in the settlement records as if they were ordinary *rai-yati* tenancies, and a similar course was adopted in the case of mixed rents, *i.e.*, where part of the rent is payable in cash and part in kind.

97. **Abwábs.**—Landlords in this district as elsewhere realise *abwabs* or unauthorised impositions from their tenants in complete defiance of section 74 of the Bengal Tenancy Act. The history of the *abwab* belongs rather to the general revenue history of Bengal than to an account of the land system of any particular district. Briefly speaking in origin the *abwab* in Mogul times was a fixed enhancement of the assessment payable to the State, and correspondingly leviable from their own tenants by the persons responsible for the payment. At the time of the Permanent Settlement all *abwabs* were directed to be consolidated with the rent, and imposition of fresh *abwabs* was forbidden. The latter part of these directions was about as efficacious as the notices exhibited in certain restaurants forbidding gratuities to be given to the staff. In fact the *abwab* has this in common with such gratuities: it is consecrated by universal custom, and it provides a living wage for under-paid employees. A considerable proportion of the *abwab* particularly under the name of *tahuri* nowadays goes into the pocket of the *naib* or other local officers of the zamindar, and serves to

supplement salaries which are usually absurdly inadequate. The following are among the more common forms of abwab levied in the district, with their average incidence per rupee of rent :—

Name.	Nature.	Average incidence per rupee of rent anything up to—
Tahuri ..	Collection fee ..	4 annas.
Chek Kharach ..	Rent receipt fee ..	3 pies per receipt
Hishabana ..	Accounts fee ..	2½ annas.
Parbani ..	Contribution for ceremonies.	4 pies.
Agamani ..	Present at landlords or zamindari officer's visit.	Lump sum usually Re. 1.
School kharach ..	Upkeep of schools	6 pies.

Marriage ceremonies are peculiarly expensive affairs for the raiyat, for not only has he to contribute to expenses of the ceremony in his landlord's family, but he has to pay a sort of sumptuary tax if he celebrates a marriage in his own family. The custom of begar or free labour rendered by a tenant to his landlord is not extinct, but in view of the growing spirit of independance among the tenantry many zamindars have made a virtue of necessity and commuted it for an annual payment of about two rupees. Cost of maintaining bridges and embankments are levied under the names of pul kharach and bandh kharach. The latter levies in saline areas where embankments are essential for the preservation of the crops, is thoroughly justifiable if the landlord maintains the embankment, and in such cases the amount payable by the tenant has been treated as a legal payment in our records. Some difficulty has been experienced in cases where the tenant has stipulated to pay something in kind, usually *gur* (molasses) or a goat, over and above his rent. It is not clear if these are legally abwabs or not. In areas where they occurred the general principle was adopted of recognising them as legal rent if they were produce of the tenant's land as *gur* might well be, but of treating them as abwabs if they could not be considered as produce of the land. If however the payment, *e.g.*, of a goat, had been stipulated for in the tenant's kabuliyat and not subsequently added as an annual demand it was treated as part of the rent. The legal rate at which cess can be levied is 6 pies in the rupee from a raiyat within the meaning of the Cess Act (*i.e.*, "a person cultivating land and paying rent therefore not exceeding one hundred rupees

per annum"), and according to the last valuation in the case of any other person. Actually these provisions are respected in many cases, but in certain estates, usually those of small tenure-holders, cess up to one anna in the rupee is levied from the raiyats.

STATISTICS OF LAND TENURE.

98. Area in proprietor's direct possession.—Under existing settlement procedure, the Collectors' registers are not written up until records have been printed. It is not therefore possible at this stage, when printing is not yet complete, to give a detailed statement showing the area and revenue of each tauzi or statistics of the tauzi roll and its component estates. Statistics of the land held by proprietors are however available, though the distribution by tauzis has not yet been ascertained; the available statistics are given in Appendix I to this report. The area held by proprietors in their direct possession is 40,542 acres, *i.e.*, 2·6 per cent. of the total area surveyed: this includes the area of most roads, small streams, burning ghats, and of land sublet by annual leases to borgadars, but not of rivers over three chains which have been classified as outside the record, nor of such roads as appear to have been in existence before 1850, and which have been, therefore, in accordance with the provisions of Act XLII of 1850, recorded as the property of the State.

99. Area in tenure-holders' direct possession.—The amount of land held by the principal classes of tenure-holders in their direct possession is as follows :—

Class of tenure.	Number of holdings.	Total area held (acres).	Percentage to total area surveyed.
Permanent tenure-holders on fixed rents or rates.	38,967	86,309·70	5·54
Permanent tenure-holders not on fixed rents or rates.	49,329	122,083·25	7·72
Temporary tenure-holders.	1,472	10,913·43	·70

In practice the temporary tenure-holders are never likely to be ejected from their lands, and in many estates the landlords have admitted the permanency of all tenures; in a few estates the tenures are

nominally temporary, but the question has not been seriously contested during the present operations, and is not likely to be of practical importance. It is far otherwise with the question of fixity of rent or rate of rent, which has been the subject of a large number of disputes. Genuine mokarrari leases have not been numerous; the majority of the area which has been recorded as held on fixed rents has gained this privilege by virtue of section 50(2) of the Bengal Tenancy Act.

Rent-free tenure-holders have 17,888 acres in their direct occupation. The majority of this area is covered by petty nishkar grants of a few acres for maintenance of brahmins or for similar religious or charitable purposes. They often simply cover the homestead land of the beneficiary; the arable land, if any, is usually let out in temporary barga lease or cultivated by hired labour. Service tenure-holders only occupy a small area of about 430 acres. The majority of the rent-free tenures are situated in the older cultivated areas of Kalaroa, Tala, Satkhira, Kaliganj and Fakirhat police-stations; Sunderban landlords do not usually make rent-free grants.

100. **Raiyati holdings.**—The number of holdings and area of land held by the main classes of cash paying raiyats are as follows:—

Class of raiyat.	Number of holding.	Total area thus held (acres).	Percentage of the total area surveyed.
Raiyats at fixed rent or rate of rent.	38,989	132,098·16	8·49
Settled and occupancy raiyats.	349,544	964,817·80	62·05
Under raiyats with rights of occupancy (on cash rent).	249,266	192,330·89	12·36
Under raiyats without rights of occupancy (on cash rent).	14,483	8,362·06	·53

The raiyats holding at fixed rents are more numerous in Satkhira subdivision than in both of the other subdivisions together. One cannot help feeling that the provisions of section 50(2) took the raiyats' landlords somewhat by surprise in the first year of attestation, and that by the following seasons when Sadar and Bagerhat subdivisions were taken up, rentals had either been actually enhanced

in order to rebut the presumption of that section or else rebutting evidence from old papers had been, to put it mildly, obtained: I know of cases where enhancements were hurriedly made obviously to defeat the presumption. Apart from this reason, I can assign no other ground for the overwhelming preponderance of Satkhira mokarrari holdings over those of the other subdivisions.

101. **Under-raiyati holdings.**—Generally speaking, as explained elsewhere, under-raiyats were recognised as having occupancy rights by custom. In Satkhira subdivision there is again a great preponderance of under-raiyati holdings without occupancy right, the number being 10,565 against 1,862 in Sadar and 2,056 in Bagerhat. During the first few weeks of attestation, the question of the recognition of under-raiyats' occupancy right was under examination, and it is certain that during this period a large number of under-raiyats were recorded as without rights of occupancy by officers who would later on, in view of experience gained and orders issued, have certainly recorded them as having occupancy right. It was not considered necessary to re-attest whole villages on this ground, but it was open to any under-raiyat to obtain a revision of his status by filing objection under section 103A Bengal Tenancy Act, for the matter had been set at rest by the time these objections came up for decision.

102. **Incidence of rent.**—The incidence of rent per acre paid by raiyats holding at fixed rents and by settled and occupancy raiyats respectively is shown in the following table which covers all the police stations of the district:—

Average rate of rent per acre.

Police-station.	Raiyats at fixed rents or rates of rents.			Occupancy and settled raiyats.		
	Rs.	A.	P.	Rs.	A.	P.
Kalaroa	2	5	3	3	8	8
Satkhira	2	4	4	3	0	1
Tala	2	9	6	2	14	8
Debhata	2	13	8	3	3	2
Kaliganj	2	11	6	3	4	0
Shyamnagar .. .	3	14	6	6	11	1
Asasuni	1	13	11	2	3	6
Total of Satkhira sub-division.	2	7	0	3	9	3

supplement salaries which are usually absurdly inadequate. The following are among the more common forms of abwab levied in the district, with their average incidence per rupee of rent :—

Name.	Nature.	Average incidence per rupee of rent anything up to—
Tahuri ..	Collection fee ..	4 annas.
Chek Kharach ..	Rent receipt fee ..	3 pies per receipt
Hishabana ..	Accounts fee ..	2½ annas.
Parbani ..	Contribution for ceremonies.	4 pies.
Agamani ..	Present at landlords or zamindari officer's visit.	Lump sum usually Re. 1.
School kharach ..	Upkeep of schools	6 pies.

Marriage ceremonies are peculiarly expensive affairs for the raiyat, for not only has he to contribute to expenses of the ceremony in his landlord's family, but he has to pay a sort of sumptuary tax if he celebrates a marriage in his own family. The custom of begar or free labour rendered by a tenant to his landlord is not extinct, but in view of the growing spirit of independance among the tenantry many zamindars have made a virtue of necessity and commuted it for an annual payment of about two rupees. Cost of maintaining bridges and embankments are levied under the names of pul kharach and bandh kharach. The latter levies in saline areas where embankments are essential for the preservation of the crops, is thoroughly justifiable if the landlord maintains the embankment, and in such cases the amount payable by the tenant has been treated as a legal payment in our records. Some difficulty has been experienced in cases where the tenant has stipulated to pay something in kind, usually *gur* (molasses) or a goat, over and above his rent. It is not clear if these are legally abwabs or not. In areas where they occurred the general principle was adopted of recognising them as legal rent if they were produce of the tenant's land as *gur* might well be, but of treating them as abwabs if they could not be considered as produce of the land. If however the payment, *e.g.*, of a goat, had been stipulated for in the tenant's kabuliyat and not subsequently added as an annual demand it was treated as part of the rent. The legal rate at which cess can be levied is 6 pies in the rupee from a raiyat within the meaning of the Cess Act (*i.e.*, "a person cultivating land and paying rent therefore not exceeding one hundred rupees

per annum"), and according to the last valuation in the case of any other person. Actually these provisions are respected in many cases, but in certain estates, usually those of small tenure-holders, cess up to one-anna in the rupee is levied from the raiyats.

STATISTICS OF LAND TENURE.

98. Area in proprietor's direct possession.—Under existing settlement procedure, the Collectors' registers are not written up until records have been printed. It is not therefore possible at this stage, when printing is not yet complete, to give a detailed statement showing the area and revenue of each tauzi or statistics of the tauzi roll and its component estates. Statistics of the land held by proprietors are however available, though the distribution by tauzis has not yet been ascertained; the available statistics are given in Appendix I to this report. The area held by proprietors in their direct possession is 40,542 acres, *i.e.*, 2·6 per cent. of the total area surveyed: this includes the area of most roads, small streams, burning ghats, and of land sublet by annual leases to borgadars, but not of rivers over three chains which have been classified as outside the record, nor of such roads as appear to have been in existence before 1850, and which have been, therefore, in accordance with the provisions of Act XLII of 1850, recorded as the property of the State.

99. Area in tenure-holders' direct possession.—The amount of land held by the principal classes of tenure-holders in their direct possession is as follows :—

Class of tenure.	Number of holdings.	Total area held (acres).	Percentage to total area surveyed.
Permanent tenure-holders on fixed rents or rates.	38,967	86,309·70	5·54
Permanent tenure-holders not on fixed rents or rates.	49,329	122,083·25	7·72
Temporary tenure-holders.	1,472	10,913·43	·70

In practice the temporary tenure-holders are never likely to be ejected from their lands, and in many estates the landlords have admitted the permanency of all tenures; in a few estates the tenures are

nominally temporary, but the question has not been seriously contested during the present operations, and is not likely to be of practical importance. It is far otherwise with the question of fixity of rent or rate of rent, which has been the subject of a large number of disputes. Genuine mokarrari leases have not been numerous; the majority of the area which has been recorded as held on fixed rents has gained this privilege by virtue of section 50(2) of the Bengal Tenancy Act.

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Police-station?	Raiyats at fixed rents or rates of rents.			Occupancy and settled raiyats.		
	Rs.	A.	P.	Rs.	A.	P.
Phultala	2	9	8	2	15	8
Daulatpur	2	7	3	2	14	5
Terakhada	1	11	3	2	7	2
Dumuria	1	15	5	2	5	4
Baitaghata	1	12	10	2	2	8
Paikgachha	2	3	8	3	2	3
Dacope	3	3	4	4	0	6
Khulna	2	9	4	3	0	7
Total of Sadar subdivision	2	2	11	2	14	5
Mollahat	1	9	6	1	15	2
Sarankhola .. ..	....			6	3	9
Kachua	2	5	1	3	7	3
Fakirhat	2	1	11	2	8	9
Rampal	3	2	9	4	2	9
Morrellganj	4	0	2	5	7	2
Bagerhat	2	5	9	3	1	3
Total of Bagerhat subdivision	2	10	3	3	11	1
District Total ..	2	6	5	3	5	10

Rentals are highest in the reclaimed Sunderbans areas of Shyamnagar, Rampal, Dacope, Morrellganj and Sarankhola, where, given satisfactory embankments, an outturn of at least 30 maunds of paddy per acre is normally obtained. The lowest rentals are in the bil areas of Terakhada and Mollahat where owing to the prospect of a crop depending greatly on annual fluctuations in the amount of water in the bils, rentals are pitched very low. It has been explained elsewhere that after detailed enquiry, it was found that tenants paying a fixed share of the produce, *i.e.*, borgadars, have practically no rights subsisting in the land they cultivate; for this reason they were not given separate khatians in our records and do not appear as possessors of holdings in the statistics collected. In the first attestation season, however, at the time when enquiries on this subject were in progress most attestation Officers gave khatians somewhat freely to borgadars in accordance with principles they had learnt in other districts where borgadars are genuine tenants. This accounts for the fact that the great majority of the holdings shown in the statistics table as cultivated by raiyats paying a fixed

share of the produce occur in Satkhira subdivision.

103. Produce and rent-free tenancies.—All tenants paying a fixed amount of produce or partly cash and partly produce rent, were given khatians, and consequently are included in the statistics table. The system of payment of a fixed amount of produce is unpopular, and is not very common in the district. The greater number of tenancies of this nature are found in the south of Satkhira subdivision where certain landlords have, as it were, specialised in this form of rental.

Rent-free raiyati holdings of any kind are very uncommon; the total number of such holdings on grounds of service is only 234, and on other grounds is 41.

104. Land occupied for public purpose.—No land has been shown in the statistics as occupied for public purposes unless it has been formally acquired. Roads and other kinds of land held permissively have been treated as the property of their true landlord, and hence do not figure in the statistics table as land occupied for public purposes. In the record of rights however a note has been made showing the permissive possession of the Department or Local Body actually occupying the land. The area of land acquired for public purposes is only 571 acres in the district, but having regard to the scanty road communication in the majority of the district, the figure is not surprisingly small.

105. Area outside the record.—All rivers over three chains in breadth were shown in the index khatian of the village as outside the record on the principle generally followed in recent settlements. The total area outside the record is 20,109 acres. It is interesting to compare this total with the total area of water in the district, as shown in the Milan Khasra statement; as the latter amounts to 1,29,923 acres, it follows that over 1,09,000 acres are covered, not by large rivers, but mainly by the network of khals which is so striking a feature of reclaimed Sunderbans tracts.

RELATIONS OF LANDLORDS AND TENANTS.

106. Tenants' privileges.—As is apparent from the account given above of the rights of raiyats and under-raiyats in the district, it cannot be said that the

Khulna tenants are a particularly oppressed class. Memories of their old abadkari rights secure to them considerable customary privileges which in the older and more reputable zamindaries are observed to this day. It is invidious to particularise on this score, but it is noteworthy that two of the zamindaries which have taken a great share in Sunderban development, namely, the Ray Chaudhuris of Satkhira and the Boukailash Raj have an exemplary reputation among their tenants for fair dealing and justice. Abwabs are exacted as described above in all estates, but provided they are moderate, no tenant feels a sense of grievance, for they are sanctioned by age-long tradition and custom. I suppose some day education and industrial revival may put an end to them, just as the same factors have put an end to many a time-honoured abuse in England, but at present the law against them is not sanctioned by popular approval and is to all intents and purposes as dead as the English law of deodand was long before its repeal.

107. **Rent receipts.**—It is far otherwise with the question of granting rent receipts as prescribed by law. The law is observed in well managed estates, and it is the first grievance of tenants of oppressive zamindars that they do not get rent receipts in proper form. The day of the naib who physically ill-treated his master's tenants is nearly, though not quite, passed, but oppression by manipulation of accounts and chicanery in law suits is in its heyday. An evicted tenant means *salami* for a fresh settlement, hence the grasping naib endeavours to keep his pocket full by ensuring that a reasonable number of holdings are sold up during the year, and for this purpose he manipulates his accounts to show that his selected victims are in arrears. In order to succeed in this nefarious game, it is essential that the rent receipts granted to the tenants should not serve to protect them; he therefore either grants no receipts or else grants receipts showing a sum of money paid, but with such an insufficiency of detail that if it is produced in court, he can swear that it was a payment of old arrears or of a temporary loan taken by the tenant at some previous time. In all probability his trickery serves its purpose, and as the suit has been brought at a time when the naib knows that ready money is scarce, the holding is sold up and either

purchased by the landlord or by some other tenant, in either case to the considerable profit of the naib. If the law relating to the granting of dakhilas were stringently enforced, it would serve to a great extent to defeat this form of oppression, and as the popular feeling among the better landlords and among all tenants is entirely in favour of its enforcement, practical difficulties will probably not be very great. In a few glaring cases, the provisions of section 58 of the Bengal Tenancy Act were enforced during the present operations, but as the proceedings were usually keenly contested with the help of legal advice, it was impossible to find the time for a systematic campaign against this abuse.

As an alternative to the withholding of dakhilas, a rascal naib has another winged arrow in his quiver, which he uses when eviction of tenants on a large scale is his quarry. This consists of obtaining *ex-parte* rent decrees with the connivance of the low paid process serving establishment of the local civil court; the whole transaction, including the auction sale of their property, is concealed from the victims, whose first intimation is the arrival of a stranger, fortified by the civil court's decree and certificate of delivery of possession, to cultivate their lands. Not unnaturally a riot at times ensues, and in the subsequent criminal proceedings it is all Lombard street to an orange in favour of the claimant who is supported by the civil court documents.

I do not mean to suggest that these abuses are universal, but that they have occurred and do constantly occur is well known to every Revenue Officer. It is impossible to particularise on the delinquent estates; certain estates can be pointed to which are bad from zamindar downward, but in many others the local agents are mainly to blame. It is not however possible entirely to exonerate the landlords, for the majority of landlords pay far less than a subsistence wage to their local staff; this of course opens the door to abuse and oppression.

108. **Assistance given by landlords to tenants.**—On the other side of the picture, it must be remembered to the credit of the landlords that they often afford material assistance to their tenants in the way of loans in times of financial stress, and during the period of scarcity in this district in 1921, very

considerable free gifts were made by them in the way of cloth and rice for their indigent tenants. Another material aid which they give in saline tracts is the supervision of the construction of embankments. In a few estates the landlords undertake the whole expense of erecting embankments and providing sluices, but in such cases they realise a very substantial sum from their tenants under the name of bundh kharach; the more general custom is for the tenants to do the actual work and to provide the materials required, while the zamindar arranges for his local staff to organise and supervise the work. Having regard to the jealousies and party faction which too often prevail in villages, the help rendered in this respect by the zamindar, though it often amounts to actual coercion, is never resented and usually gratefully acknowledged by the bulk of the tenants. It is needless to repeat here the instances of misuse of this system which have been given in the chapter of this report dealing with the resettlement of Sunderban estates. They are fortunately the exception and not the rule.

109. Zamindari accounts.—The following working system is used in the larger and better managed zamindaris of the district; there may be variation of detail or modification in particular cases, but, broadly speaking, the administrative essentials are the same. There is a Sadar cutcherry or office located generally at the seat of the zamindar's residence, or in some important village in the estate. It is in charge of a General Manager, whose duty comprises the supervision of the whole estate, including the outlying or mufassal cutcherries. The charge of a mufassal cutcherry is known as a mahal or tahsil.

The Sadar cutcherry has usually six departments—

- (I) The Mokoddoma Serista or Law Department.
- (II) The Sumar Serista or Cashier's Department.
- (III) The Munshi Serista or Correspondence Department.
- (IV) The Jama Serista or Accounts Department.
- (V) The Jarip or Amin's Serista or Survey and Settlement, and Jamabandi Department.
- (VI) The Mahafez Serista or Records Department.

Each department is controlled by an Officer in charge, who has a staff of clerks.

The Law Department deals with all the estate litigation; the main registers kept here are the register of bonds and other deeds, executed in favour of the estate, which require legal action, and the register of suits for arrears of rent.

The Cash Department maintains the following registers:—

- (I) Roka or Daily Cash Book.
- (II) Jama Kharach or Account register.
- (III) Monthly returns of accounts.
- (IV) Saltamami or Annual Returns.

The duty of this Department corresponds to that of any cashier's Department. It is responsible for depositing to the credit of the estate all sums remitted in its favour after they have been entered in the accounts and authenticated by means of chalans or transaction slips issued by the Accounts Department.

The Correspondence Department is run on the same lines as all similar Departments.

The Accounts Department's main work lies in the controlling of the various local collection accounts, crediting the amounts received in favour of each tahsildar who remits them, and at the end of the collecting season verifying his remittances and balances with the account registers. This verification, which is attended personally by the tahsildar, is called nikash.

The registers maintained by this Department are:—

- (I) Tauzi or Korchha or Talabaki register.—This is a general register of the tenants' accounts; one page is allotted to each tenant, and all money transactions with him are entered on that page.
- (II) Jama wasil baki register, which is prepared annually to show the state of each tenant's account at the end of the year.
- (III) Oja and Beojari papers deal with the system of annual remissions, which finds a far greater place in the zamindari seristas than in other systems of account.

- (IV) Books of unissued rent receipts and counterfoils of used receipt books are kept in this Department.
- (V) The tahsildars amdani or daily receipt books are deposited here at the end of the year for future reference.
- (VI) A list of defaulting tenants against whom legal action is proposed is kept here.

The Survey Serista keeps, while in current use, the chittas or measurement papers of the estate, and any available maps and khatians of the estate as well as the jamabandi or rent-roll of the tenants.

The Records Department corresponds to a similar Department elsewhere.

The mufassal or local cutcherries are mainly collection centres of the units variously known as mahals, tahsils or tarafs: the Officer in charge is known as tahsildar or gomostha. Each centre has a specified area, which usually comprises a few villages. In the more important centres the Officer in charge is called the naib, who sometimes controls several smaller sub-collection centres, which are placed under tahsildars. Each cutcherry is staffed by one or more clerks, or muharrirs, and henchmen called paiks or burkandazes, who provide lawful, and sometimes unlawful, strength of arm in service of the cutcherry.

The following account books are kept by the tahsildar:—

- (I) Rent-receipt books, which are issued and verified by the Sadar Accounts Department.
- (II) Jama wasil book papers containing annual statements of the tenants accounts.
- (III) Korcha or talabaki, a current ledger of tenants accounts.
- (IV) Roka or daily general cash-book.
- (V) Bakijai papers or statements of tenants arrears.
- (VI) Grain advance and realisation papers.—These are only kept in the cutcherries which are in the habit of lending paddy on interest to tenants.
- (VII) Seha or amdani papers.—These are the most important papers for an evidentiary point of view for they are actual running

accounts of daily receipts from tenants, in which, from their nature, alterations or interpolations cannot at all easily be made. This register is written up daily, whereas the karcha or current ledger is only made up from time to time by transcribing entries from the seha. If a dispute arises as to whether a certain payment by a tenant has been made or not, the seha is excellent evidence, but the karcha is of no great value, and the jama wasil baki practically valueless.

At the end of the collecting season when the nikash or clearance of accounts of each tahsildar is made at the Sadar cutcherry, all papers and registers not in current use are made over for deposit there.

PART II.—THE PRESENT OPERATIONS.

Chapter I.—The district operations.

THE DISTRICT OPERATIONS.

110. **Inception proposals.**—According to the original provincial programme of settlement operations, Khulna district operations were due to start in 1917-18, but owing to curtailment of the programme by reason of the war, it was not until the cold weather of 1920 that the traverse party were able to start work in Khulna after completing their Jessore programme. It was originally proposed that the three subdivisions which formed the three blocks should be taken up in the order Satkhira, Bagerhat and Sadar; but it was decided in 1921 that the geographical order Satkhira Sadar and Bagerhat should be adopted, mainly on the ground that economic enquiries which Government required to be made in connection with the scarcity prevailing in 1921 should be taken first in the two subdivisions where the scarcity had been prevalent.

In the Director of Land Records' letter No. 1-19-5057, dated 14th June 1920, conveying the inception proposals, a special reason for taking up the operations at once was adduced in the fact that it was urgently necessary to locate and examine the lands covered by leases under the Waste Land Rules or held under temporary leases as resumed estates.

111. Omitted areas.—In the original estimate it was proposed to omit the following areas from the operations on the ground that they had been previously subject of petty settlements under Chapter X of the Bengal Tenancy Act:—

- (I) 106 square miles of Dihi Bhādra.
- (II) 20 square miles of Tatibunia.
- (III) 26 square miles of Mokimpur.

The postponement of the programme however made it probable that the records of these petty settlements would be out of date, and it was decided to include the first two in the present operations. Mokimpur records had been finally published somewhat later than those of the other two estates, and furthermore this estate had been left out of the Jessore district operations: it was therefore decided to omit it from the programme of this district. At a date subsequent to the framing of the original proposals, two tenures covering villages Atra, Gilatala and Bil Pabla, in all an area of about 13 square miles, had been subject of petty settlement, the records of which had been published as recently as 1918; it was therefore proposed in the inception letter to omit these estates also from the programme. Later on, at the instance of the Collector of the district, who pointed out that a survey and settlement of the Government estate Boyersingh had only recently been concluded, the Director of Land Records sanctioned the omission of this area also from the programme. The total area so omitted is, as follows:—

	Sq. miles.
Atra	106
Gilatala	20
Bil Pabla	26
Boyersingh	106
Mokimpur	20
Total	4274

112. Traverse.—The traverse of A block was carried out during the cold weather of 1920-21, but owing to an unfortunate misunderstanding, the cultivated areas which had been included in Colonel (then Major) Hirst's topographical survey of the Sunderbans in 1905-08 were excluded from the traverse programme. No record of rights had been prepared for these areas, so it was impossible to omit them from the operations. Accordingly as soon as the error was discovered the Director of

surveys was asked to arrange for the traverse to be done immediately. This naturally involved considerable delay, and it was not until May 1922 that the traverse plots were received by us and kistwar started. The area so involved was about 30 square miles, but as good amins were fortunately available, the work was taken up and bujharat finished in August. In the other two blocks no such contre-temps arose and though at times the cadastral Circle Officers complained that traverse stations were unduly far from the boundaries of villages, and that subtraverse was insufficient for convenient survey in dense village jungle, the difficulties were never serious, and were easily put right by a sub-surveyor working under the Technical Adviser's directions.

113. Initial difficulties and advantages.—Kistwar opened under somewhat unfortunate auspices: during a few months prior to the opening of the field season, there had been considerable local scarcity, resulting from the cyclone of 1919, in police-stations Asasuni and Kaliganj of Satkhira subdivision. During the hot weather a motion had been brought forward in the Bengal Council recommending the postponement of settlement operations in Khulna district owing to the economic conditions prevalent there: though this motion was defeated by the narrow margin of one vote, there was a considerable amount of local feeling against the starting of the work. This feeling was intensified by the spirit of non-co-operation which was at its height in 1921 and was fermented by certain landlords who were anxious to see the settlement operations abandoned or at least postponed. These considerations did much to prevent amins coming forward on the date fixed for the opening of the field season, and those who did arrive at once combined and declared that they would not go to their halkas unless they were definitely promised fees of Rs. 25 per hundred acres surveyed by them. In putting forward these exorbitant demands, they were no doubt actuated by a genuine fear of the dangers and discomforts of work in the Sunderbans as well as by the deterrent considerations described above. Their demands were naturally refused, and as they declined to board the special train arranged to convey them to their destinations, the train was sent off without them, and they were left sitting on the platform for the night. Morning fortunately

brought reason and unconditional surrender, and the majority of them went off to their work. The numbers were however short, and this difficulty was intensified by the fact that many of them after seeing the flooded state of areas where embankments had not been repaired, bolted altogether. The main task therefore of the first cadastral season was the organization of the work with a view to its completion by the small staff available: this difficulty persisted throughout the first part of the season, but as the Sunderban areas dried up in January, matters improved and ultimately all kistwar except five square miles and all khanapuri except seven square miles was completed. About seventy square miles of bujharat were perforce left pending in the north of the district where the plots were extremely numerous: it was considered better to leave this comparatively dry area unfinished and to concentrate upon completion of the southern wet areas. The pending work was easily completed at the beginning of next field season. Owing to the open country and the size of the plots in the Sunderbans, the amins were able to earn such high fees that we were never in future troubled by a lack of them, and cadastral programmes were invariably kept up to date in succeeding blocks. To counterbalance the difficulties referred to above a considerable advantage accrued from the fact that the Settlement Officer was also Collector of the district. Apart from the question of local knowledge, a Collector can do far more than a Settlement Officer to make the rough ways smooth by his influence with the subordinate district staff and local land-holders.

114. Special features of Sunderban Kistwar.—It is needless to enter into details of the organization and routine procedure of settlement work for they are thoroughly standardised by now, and fully described in the manuals of the department and various Settlement Reports. The main problems therefore which call for description here are those connected with any unusual features of the work: such features naturally arose mainly in the Sunderbans. Early in the first kistwar season, the Sunderbans area was inspected by the Director of Surveys; the main outcome of his visit was an order on the subject of mapping the lands which fell outside marginal embankments and which though often covered by "hargoza" or other jungle usually went

under water at high tide. In these cases the Director of Surveys ordered that the marginal embankments should be the limit of the accurate mapping, and that the normal water's edge should be marked with a dotted line by eyesketch, the intervening area being marked with alamats for tree or grass jungle as the case might be. This rule had to be somewhat modified in cases where it was proved that a tenant was paying rent for a definite area outside the embankment; such area was mapped as a plot of land in the ordinary way. Other problems arose in connection with the peculiar condition of Sunderban cultivation, in particular with the infinite number of small meandering streams that spread over the reclaimed areas. In order to reduce the number of small plots which the separate mapping of these khals naturally created, it was decided that all khals running through tenants holdings and forming part of those holdings should not be shown as separate plots, but should be included in the adjacent plots by a linking symbol, viz., the letter S. Embankments were divided into three classes, the distinction being made at the instance of the Director of Surveys, who directed that such embankments as formed military obstacles to progress, *i.e.*, could not be surmounted by an active horse, should be shown separately from the smaller surmountable ones. Accordingly the larger embankments were shown by the normal conventional sign, *i.e.*, short transverse lines between two parallel lines, smaller embankments over fifteen links in width were shown by two parallel lines with a series of small crosses on the landward side and embankments under 15 links in width were shown by a single line with small crosses on the landward side. Where there was land on both sides, *i.e.*, the embankment was not a marginal but a cross embankment, the small crosses were marked on the south or east of the line or lines. The plots in the Sunderban areas were often long narrow strips of land. Usually the long ails ran in a straight line from corner to corner of the field and amins presuming on this probability, invariably wanted to draw their chain lines at long distances apart transversely to them, thus fixing the corners of the fields with a minimum of labour expended on running chain lines: they then joined up the corners with long straight lines. This method naturally only gave a correct representation of the plot when the long ails ran perfectly

straight from corner to corner: if there was any bend in the ail, it was bound to pass unmapped and serious error might result. It was therefore necessary to insist from the outset that the chain lines should be drawn parallel to, and not across, the direction of the long ails. Another device was found useful in defeating amins slackness; it was made an invariable rule that the katans or places where chain lines cross ails should be marked on the ground with a stroke of the kodali: by this means it was possible for an inspecting officer to detect at once the cases where amins had filled up the details of their maps by taking improperly long offsets and had then drawn false chain lines on the map to conceal the length of their offsets. In this connection it is worth note that after the Director of Surveys had inspected the Sunderban area, he gave permission for the bends of the numerous small khals to be located by offsets up to two hundred links from the chain line.

115. River boundaries of the district.—Another difficulty arose in connection with the district boundary in areas where there had been change in the course of a boundary river which ran between this district and a previously surveyed district such as Jessore or Bakarganj. For purposes of boundary comparison, it was necessary to show on our sheets the adopted boundary of the previously surveyed district, and where a boundary river had changed its course, there would thus be two boundaries of the adjacent district, one being the actually surveyed boundary and the other the midstream of the present river course which is the *de facto* administrative boundary of the district. In such cases the previously surveyed boundary was shown by the *alamat* of long broken lines and the present administrative boundary by the ordinary *alamat* for a district boundary, viz., a dash and a dot. The present administrative boundary was taken as the actual boundary of our maps, but draft records were prepared for areas which fell outside the present boundary, but had not been included in the record of rights of the adjoining district. These draft records were in the case of Bakarganj eventually transferred to the Bakarganj petty settlement party, and I understand have proved of considerable use to them.

116. Kistwar in jungle areas.—Apart from the Sunderban and riverine areas, the kistwar presented no particular new

problem. Along the banks of the Bhairab, particularly in Phultala, the village jungle was so thick that amins found great difficulty in running chain lines. In this area the three flag method was necessarily used. This method, which is known as tin-jhandi by Bengali amins and "wapsi" by up-country men, consists in running a straight line from a known point on one morubba line to an unknown point on another, which point is subsequently located by measurement. The amin runs the line by means of three flags moved forward gradually one after another in thick jungle and keeps it straight by looking backwards from the front flag to the two rear ones: hence the name "tin-jhandi" or three flags, and "wapsi" or backwards. In such areas adequate partial was difficult and kanungos were allowed to use the system of marking a line on the khaka, and after taking away the original map, directing the amin to survey the line so marked. The result was compared with the original map and afforded a satisfactory check of its accuracy. Generally speaking partial, which was easy in most of the area owing to the open nature of the country, attained a standard of fifty per cent. or 320 chains in 640 acres.

117. Kistwar in bil areas.—Every effort was made to survey the large shallow bils of the north in detail when the water was at its lowest for most of this bil area is divided into known holdings which are cultivated in years when the state of the water allows. Such areas are a fruitful source of rioting and litigation; hence every effort was made in the driest months of the year to prepare a map showing field boundaries wherever they could be identified out of the water. In some cases our results were somewhat vitiated by partial revealing the fact that the field boundaries composed of masses of dead water weeds had floated away bodily to some little distance.

118. Formation of villages.—Proceedings for amalgamation and splitting up of mauzas where they were inconveniently small or large, were always drawn up early in the cadastral field season. There was very little objection on the part of any landlord to these proceedings, except in the case of the Morrellganj Laha Estate, which objected to the formation of any mauza, which did not correspond to the unit adopted by the estate for collecting purposes. As however it was impossible to reconcile these collection units with the conditions

laid down in the Settlement Manual for the formation of mauzas, it was decided, after a reference to the Director of Land Records, that mauzas should be formed on settlement principles, but that lines showing the limits of the Laha estate units should be marked on the maps. • A question of formation of mauzas in areas not previously included in the revenue survey was a matter of some importance in view of its effect on the rights of the tenants: this has been described separately in the chapter on the Sunderban operations.

119. Kanungo Circle Officers.—Khanapuri and bujharat presented few special problems, except in the Sunderban areas. These have been described separately and need not be recapitulated here. In B block these branches of work were supervised mainly by kanungo Circle Officers instead of the gazetted officers usually placed in charge of circles. The result of the experiment was, in my opinion, favourable. It is true that in difficult boundary disputes and other unusual problems the gazetted officer proved himself naturally the better man, but in favour of the kanungo Circle Officers were firstly their familiarity with the details of settlement procedure and the guile of amins, secondly they were usually better at touring than the gazetted officers, although we certainly had several indefatigable tourers among the latter also, thirdly from a financial point of view the kanungo Circle Officer of course cost less than the gazetted officer.

120. Record of shares of estates.—In preparing the khatian of the superior interest in an estate at Khanapuri, the rule in this settlement was to show every co-sharer of the estate in column 13 of the khatian and to make their shares total up to sixteen annas. If any co-sharers had no land in the mauza, they were still given their appropriate shares in column 14, but a note was made that they were without land in the mauza. If however there had been a permanent partition of the estate a separate khatian was opened for each hissva (share): in each khatian so opened, the total of the shares was made to come to sixteen annas.

121. Mortgages by conditional sale or lease.—In many places in the district a form of mortgage by conditional sale or conditional lease was found; the premium paid on the sale or lease was really the

mortgage money and a stipulation or ekrarnama for return of the land on repayment of the premium was simultaneously executed. Though these deeds purported to be deeds of sale or lease, it was recognized that the transaction was really a mortgage, and it was always recorded as such.

122. Experiment in bujharat attestation.—In certain villages which were under resettlement of land revenue, an experiment was made in A block of doing bujharat and attestation simultaneously in order to speed up the jamabandi proceedings. It turned out that the areas so chosen were unfortunate, in that the Government estate did not cover the area of the whole village; hence the extra labour entailed during pressure of work in the bujharat season did not seem justified, and the experiment was dropped. I think perhaps that if the experiment had been tried in some of the villages or B block where Government is sole proprietor and where the attestation was comparatively easy, it would have been more successful.

123. Boundary marks.—The boundary pillars embedded by the traverse party are usually renewed by the settlement party wherever they are found missing. In a large area of the district these trijunctions were frequently situated on marginal embankments or in some cases, on the middle points of embankments over khals: the marginal embankments are repaired annually by adding earth to them, and the embankments over the khals are in many cases destroyed in November to allow the water to flow in before the crops are cut, and renewed after the harvest. In the circumstances it seemed useless to renew the pillars which would only be covered up or destroyed again next year, consequently, although the usual mark register showing the number and situation of the pillars was duly prepared, the pillars themselves were not renewed. The small khals which intersect the fields do not change their courses, and in many cases are the permanent boundaries between tenures, holdings, or villages. It therefore is improbable that relay of the sixteen inch map will ever be a matter of much difficulty, and the necessity for preserving permanent boundary marks is to a great extent obviated.

124. Recess work.—During the recess after the field-work of the cadastral

season was over preliminary statistics were prepared and the somewhat arduous work of checking cross references of interests occurring in more than one mauza was done in circle camps. At headquarters preliminary boundary comparison was done and rough thana maps on the scale of one inch to the mile were prepared by reduction of the sixteen inch sheets. These preliminary one inch maps, though nominally prepared only for settlement work, have been in considerable demand by other Departments, and have been well worth the small expense entailed in making them.

125. Organisation of attestation and section 103 work.—Attestation of the records was done partly by gazetted officers and partly by senior kanungos vested with revenue powers: in dealing with complicated matters, the gazetted officer who has usually better educational qualifications than the kanungo, was on the whole the more successful, but much excellent work was done by the Revenue Officers. As a matter of organization a particular point was made of keeping the janch, or scrutiny and check, of the attested records up to date. It was never allowed to fall below fifteen hundred interests behind the attestation out-turn which was fixed at an average of a hundred interests per day. The great advantage of this was that it enabled the programme of the officers trying objections under section 103A to be kept up to date, and this in turn meant that the final janch camps were kept supplied with continuous work, once they had been organized. In the first attestation season we were short of officers who could try section 103A objections, and the programme began to fall badly into arrears. To cope with this, three of the best kanungo Revenue Officers were vested with powers of Assistant Settlement Officers in order to enable them to try objections. Even so the progress continued somewhat behind hand and leeway was only made up during the early part of the next field season. The kanungos who were selected for trying objections on the whole justified their choice and probably disposed of nine cases out of ten as satisfactorily as more qualified officers would have done: in occasional cases however they failed to grasp broad principles which were outside their previous experience, and although there is no appeal from section 103A decisions some revisionary work was done by the

Settlement Officer and the Charge Officer.

126. Use of section 48, Bengal Tenancy Act.—The main problems which arose during attestation have been dealt with either in the section of this report which deals with the tenure system and the right of tenants, or else will be noticed in detail in the chapter which is devoted to Sunderban problems. A few other points however require notice. The provisions of section 48 of the Bengal Tenancy Act which enable the Revenue Officer to cut down the rents of under-raiyats if they exceed their immediate landlord's rent by more than 25 per cent. in the case of verbal agreements and by 50 per cent. in the case of registered agreements, were not usually enforced. Experience proved that in such cases the landlord made use of his legal power of ejecting the under-raiyat if he was dissatisfied with the amount of rent recorded. Revenue officers were accordingly instructed not to apply the provisions of the above section unless they were fully satisfied that the under-raiyat would be secure from molestation as the result. Under-raiyats who were recorded as having occupancy right by custom were in no case given the benefit of this section as it was considered that they were sufficiently protected by their customary right and could not claim additional privileges.

127. Holdings sold in execution of decree.—Many cases occurred where holdings or tenures had been sold in execution of a decree for rent, but the tenant still continued in occupation of his land. These were fruitful sources of dispute and were dealt with in the following manner. Where symbolical possession had not been taken through court, the name of the tenant and the old rent continued to be recorded as if no decree had been passed, for until possession had been delivered, it was considered that the decree must be treated as infructuous. Where however symbolical possession had been delivered, the old title had clearly been extinguished. If the tenant continued in possession, in spite of the court's order, his possession would be either permissive with the consent of the landlord, or adverse without his consent. In either case no title would be established until twelve years had elapsed, but if the landlord had accepted rent during the period of occupation or in any other way

recognized the tenant, it seemed equitable to record the tenant's rights as if they had never been extinguished. But when no rent had been accepted, the occupant could not be considered as a *bone fide* tenant: he was a mere trespassing occupier and was recorded as such under the name of dakhalkar, and no rent or status was given to him. But if symbolical possession had been taken more than twelve years previously and the old tenant was still found to be in occupation, he was considered to be protected by the law of limitation and was recorded as having old status but, in the column for rent, the words "liable to rent" were written.

128. Illegal enhancements.—Cases of illegal enhancement of course came to light from time to time, and in accordance with the usual settlement practice, such rents were cut down, not to the amount of rent which could have been legally levied as a result of enhancement, but to the original rent as it was before the enhancement was made. Cases of wholesale enhancement were reported through the Charge Officer to the Settlement Officer, who passed orders on them. Such cases were not very numerous and involved no unusual question of law or fact. The case of embankment enhancements however presented some difficulty. In many cases it was found that tenants were paying rent at rates which included an enhancement of more than two annas in the rupee on account of the proprietor undertaking to maintain the embankments. Provided these enhancements were effected by registered contracts, they were considered to have been legalized by section 29 (2) of the Bengal Tenancy Act on the ground of landlord's improvement, but if the agreement was verbal or unregistered, the enhancement would not be legal unless the defect had been remedied, under section 29 (1), by continuous payment for three years: in this case the enhanced rent was recorded as the legal rent. If however the enhancement by unregistered or verbal contract had not been paid for three years, the following principles were observed. If the landlords and tenants agreed upon the amount payable, the attestation Officer sent a report for orders under section 109C of the Tenancy Act to the Settlement Officer. In Eastern Bengal the attestation Officer if satisfied that the contract was equitable could have

recorded the new rent under section 109B, but in this district the Eastern Bengal amendment of the Tenancy Act is not in force, and the attestation Officer has no power to record a rent which is equitable but not strictly legal. If however the landlords and tenants could not agree upon the amount payable, the attestation Officer was directed to attempt to bring about a compromise. If he succeeded, he submitted a report for action under section 109C. If however he was unsuccessful in effecting the compromise, he was bound to record the original rent as it stood before the enhancement.

129. Leases contravening section 85, Bengal Tenancy Act.—Reference has been made above to the prevalence in this district of permanent or long term leases granted by raiyats to under-raiyats in contravention of section 85 of the Bengal Tenancy Act, and it has been explained that in reality in these cases there is more than one grade of raiyat, each having practically identical customary rights, but as the Tenancy Act does not envisage the existence of more than one grade, we have been compelled to record the lessee in these cases as an under-raiyat. Hence a difficulty arose in dealing with these leases which clearly contravene the provisions of the law. Fortunately, however, a solution was found in the ruling in a High Court decision in the case of Chandra Kanta Vs. Amjadali (25 C. W. N. 4), which lays down that in such cases the written lease is entirely invalid and has no legal consequences, but inasmuch as there was an intention to create a lease between the lessee and the lessor, the lease must be regarded as existing in the form of a verbal contract. Accordingly such leases were treated as verbal contracts in our records, and unless there was any evidence of contrary intention of the parties, the lessee was recorded as having occupancy status by custom.

130. Protected interests under Regulation VIII of 1819.—An unusual point arose as a result of the sale of a patni tenure under the Svedpur Estate. After the sale, which was of course held under the provisions of Regulation VIII of 1819, the purchaser claimed the right to evict all tenants who were non-resident in the village, even though they were settled raiyats of the village, on the ground that only resident raiyats are protected from eviction by the Patni Sales Regulation, under the name of khudkahst-

raiylats; non-resident raiylats, who correspond to old class of paikahst raiylats were not protected by that Regulation, and it was contended by the purchaser that as the Tenancy Act left the old Regulation unrepealed, its provisions must prevail over the provisions of section 160 of the Tenancy Act. The local Government Pleader was of opinion that this view of the law was correct, and his opinion was supported by the fact that one of the provisions of the recent abortive draft amendment of the Tenancy Act was framed with a view to protecting such tenants from eviction after a patni sale. It appears, however, that the matter has very recently been set at rest in favour of the tenants by a decision of the High Court in the case of Jnanendra Mohan Bhaduri v. Harendra Krish De, 87 I. C. 32. In the absence of a full report of the case, the following abstract is taken from the addenda to the 1925 edition of the late Rai Surendra Chandra Sen Bahadur's Tenancy Act. "Occupancy raiylats are protected from eviction under section 11 of the Patni Regulation VIII of 1819. A raiyat with a right of occupancy now occupies the same position as a khudkahst raiyat, and should therefore have the same protection as a raiyat had when the Patni Regulation of 1819 was passed."

131. Commutation of produce rents.—Applications for commutation under section 40 of the Tenancy Act were rare. The reason appears to have been partly the fact that occupancy raiylats paying rent in kind are not very common in the district and also the fact that in areas where embankment is necessary, the tenants themselves, though individually they dislike the system, realize that it is to their own interest that the landlord should realize produce rent from the village, as he then has a direct interest in seeing that the embankments are maintained intact. For this latter reason, also, during the course of jamabandi proceedings efforts were only made to commute produce rents to cash rents when there was a very strong reason for doing so.

132. Final janch.—As noted above, every effort was made to complete final janch each year before the Puja holidays. It was found more convenient to have three or four final janch camps in various parts of the block than to have the work concentrated at Sadar. One very strong reason for this was that in

the mufassal the amlas are always willing to begin work early in the morning, but at Sadar they follow the example of Collectorate and other amlas and are very unwilling to attend office before 11 A.M. In A block an experiment was made of staffing the janch camps entirely by kanungos. On the whole the experiment was a success, for the kanungos, particularly the junior ones, benefited much by the experience thus gained and took a lively interest in the details of the work and the interpretations of rules and orders issued for their guidance. The outturn, however, of the kanungos fell considerably short of that of experienced muharrirs and in "B" block the work was done partly by kanungos and partly by muharrirs. In "C" block very few kanungos were available, for they had been previously transferred to the 24-Parganas Settlement for cadastral work. No branch of work subsequent to final janch is yet completely finished, and as a supplementary report will be issued later dealing with these branches, it is useless to anticipate here a part of the information which will be contained therein. But in the case of jamabandi, the work is so nearly completed and has involved, in the Sunderbans, so many problems of unusual interest that it seems worth while to combine an outline of Sunderban revenue history with an account of the questions which arose in the Sunderbans during the course of the present operations, particularly at attestation, objection, and jamabandi stages. This account is given in the following chapter.

Chapter II.—History and Problems of the Sunderbans.

PRESENT AND PAST PROBLEMS OF SUNDERBANS REVENUE ADMINISTRATION.

133. Definition of Sunderbans.—Some account has already been given in this report of the way in which deltaic formation has been spreading southward between the Hooghly and the Meghna rivers building up new land as it goes. These two rivers are respectively the west and east boundaries of the Sunderbans and the southern boundary is the Bay of Bengal. No definite line can be given as the northern boundary—for as delta building goes on, men push further and

further southward to cultivate the fertile alluvion, and what was once inhospitable jungle, becomes in one or two generations fields of paddy and homes of men. At any given time therefore the Sunderbans geographically speaking begin where cultivation ends but as land newly reclaimed from jungle and still infested by wild beasts cannot bear an assessment which old cultivation can pay, the Sunderbans from a revenue point of view are marked off as the land which is still in nature's tutelage, too immature to bear the fiscal burdens of maturity. The fact was recognized in the early assessments of Bengal for we find that in Sultan Shuja's revision in 1658 of Todar Mal's original settlement of 1582, a new sarkar is introduced to cover the Sunderban tracts which Todar Mal had left unassessed. This sarkar was called Muradkhana or Jeradkhana, and was divided into two parganas only. Akla for pasturage and Bunjer for forest produce, with a light assessment of sicca Rs. 8,454. It is doubtful whether this sarkar covered the whole of the productive area of the Sunderbans or only the eastern portions, as is suggested by the ultimate inclusion of the sarkar entirely within the Neabut of Dacca, but its existence is of interest as the first example of the recognition of an area assessable to revenue, but not fit to bear the full burden of cultivated land.

We must look upon the Sunderbans therefore as a tract ever moving southward and containing in its northern limits land whose assessment requires special knowledge and special treatment, while the rest of its area is unassessable as yet to land revenue but containing the potentiality of revenue production. It is important to envisage this twofold aspect at the outset, for the dual problems of assessing cultivated area and settling uncultivated waste have been the two problems which have confronted the revenue administration throughout the fiscal history of the Sunderbans. The scientific conservation of forest produce and its exploitation for revenue purposes is a later offspring of fiscal eugenics, which requires separate treatment from the older question of land revenue.

Ethymologically, the meaning of the word Sunderbans is obscure. Various derivations have been suggested: some derive the word from the name of the *sundri* tree (*Heritiera minor*), which is the most valuable tree of the littoral

forests. But as the name applies to areas where the tree is not found at all, this derivation must be regarded as doubtful. A pious interpretation of the name derives it from the Sunddha river in Bakarganj district; this is a contraction of the name Sugandi a place celebrated as a "Pithasthan" or spot where part of Sati's body (in this case the nose) fell after it had been cut in piece by Mahadeb. It is, however, improbable that a single spot, however hallowed by tradition, would give its name to the thousands of square miles included under the term Sunderbans: a more likely derivation is the word Samundar or Samudra-ban, "sea forest"—a name peculiarly applicable to this jungle inundated throughout by salt tide and permeated by saline air, and it is not difficult to agree with Mr. Pargiter in accepting this derivation. Of other suggestions the derivations from the forest tribe of Chandabandas, or from the Kingdom of Chandradwip are more ingenious and fanciful than probable.

The earliest references to the area now known as the Sunderbans described it as the "bhatti" or ebb tide land; this name is applied to it in the Ain-i-Akbari and in Grant's analysis of the finances of Bengal. The name is no longer current, but the common term used by cultivators and wood-cutters alike throughout Khulna district is bada which phonetically at any rate recalls the word "bhatti."

Archæologically the area is of considerable interest for the depths of its forest contain remains of buildings, tanks, temples, etc., which show that it must have been inhabited by a considerable population within five or six hundred years. It is out of place to describe these in detail in this report; full details of the various relics of antiquity are given in Professor Mitra's History of Jessore and Khulna. As however the existence of these ruins is actually used by claimants to right of property in the Sunderbans tracts as arguments in favour of their pretensions, it is sufficient to point out that even in the best preserved remains, the Shekertek temple, or the Betkasi ruins, there is no evidence, external or internal, to connect them with any particular person or family, and in any case all such claims were set at rest once and for all by Regulation III of

1828 which affirmed and secured to Government the sole right of property in the Sunderbans.

134. Early assessment of the Sunderbans.—Apart from legend and tradition the first fact of fiscal importance in the Sunderbans was the creation by Sultan Shuja in 1658 of the sarkar Muradkhana or Jeradkhana, referred to above. After his assessment, a long gap occurs before the subject appears to have received attention again, though doubtless the border zamindars had meanwhile been pushing cultivation further and further southward. The question of reclamation of Sunderban jungle was taken up in 1770 by the Collector-General Claude Russell in respect of the Sunderbans in the vicinity of the 24-Parganas, and by Tilman Henckell, Judge and Magistrate of Jessore in 1783, in respect of the Sunderbans between the Haringhata or estuary of the Baleswar river on the east and the Raymangal river on the west. The leases granted by Claude Russell originated the patitabadi taluks of the 24-Parganas and the Jessore leases originated the Henckell's taluks of Jessore and Bakarganj.

135. Henckell's scheme.—With the former this report has little connection, but as the great majority of the latter fell within the boundaries of the present district of Khulna, their history requires further notice here. It is to be noted that neither Russell nor Henckell conceived the idea of assessing lands newly cultivated by border zamindars; they simply dealt with unoccupied waste. Henckell's scheme was as follows. Plots of jungle with specified boundaries were to be leased out to cultivators with a revenue-free period of three years and a rental of 2 annas sicca per bigha of 55 yards square for the fourth year, 4 annas for the fifth year, 6 annas for the sixth year and 8 annas for the seventh year and onwards in perpetuity. At the same time he defined the boundaries of the Sunderbans as follows:—

South—The Bay of Bengal.

East—The Haringhata river.

West—The Roymangal river.

North—

(a) The village of Dhuliapur on the Kalinga river.

(b) The village of Kagrighat on the Jabuna river.

(c) The village of Chingrikhali on the Kabadak river.

(d) The mouth of the Dhaki creek on the Marjata river.

(e) The end of the Dhaki creek.

(f) The village of Serpatalya on the Daudkhali river.

(g) The village of Kachua on the Baleswar river.

This northern boundary is of interest as the earliest definite northern boundary of the Sunderbans: the line can be approximately identified on a modern map by reading Kalindi for Kalinga, Khagrahat for Kagrighat, Bhadra for Pahdor and Srifaltolla for Serpatalya.

136. Henckell's taluks and khas abads.—Within this boundary Henckell gave leases to applicants and at the same time established three frontier posts on the northern confines of the Sunderbans. One was situated at the junction of the Jamuna and Kalindi, and still bears the name of Henckellgunge or Hingalganj, though a more modern name of Bangalpara is displacing the older name; a second was Chandkhali on the river Kobadak and a third Kachua on the river Baleswar. These posts were known by the name of khas abads. Henckellgunge is situated within the district of 24-Parganas, and the other two within the modern district of Khulna. The history of Kachua as a Government estate was short, for it was settled in perpetuity with the border zamindars during the decennial settlement of 1790.

The khas abad of Chandkhali was early settled in farm, the first traceable lease being a farming lease which expired in 1815. Subsequent settlements of the estate were in Sunderban talukdari right, until in 1877 it was purchased by Government in a sale for arrears of revenue. It was then settled raiyatwari with effect from 1878 and has been held since under khas management by Government. In the history of the neighbouring estate Mahomedabad, which is given below, reference is made to the fact that management of these estates has been rendered very difficult by the increasing salinity of the Kobadak and Menus rivers, and the question of their future management is at present pending with the Board of Revenue.

The following mauzas are included in the estate :—

Chandkhali.	Feduarabad.
Kanuardanga.	Fatchpur.
Garerdanga.	Dougabhang.
Sripur.	Dhemsakhali.
Chandmukhi.	Chak Narikeltala.
	Kaowali.

137. Opposition of the zemindars.—The fatal flaw in Henckell's scheme was that it interfered with the claims of the zamindars to add to their estates all such waste lands as they could bring under cultivation. This claim was based upon prescription, and though the Board of Revenue in 1814 laid it down as a "matter of notoriety" that the whole of the Sunderban tract "was excluded from the zamindars" and belonged absolutely to the State, the earlier and greater authority of Grant in his "Historical and Comparative Review of the Revenues of Bengal" is distinctly in favour of the right of the border zamindars "to ameliorate the uncultivated wastes of the Sunderbans" subject to the payment of the State's due share of resultant profit. Actually such amelioration of waste had been going on unchecked, for it is on record that the petty zamindars of Buzurgmedpur on the skirts of the Sunderbans had improved its revenues from 6,000 rupees to two lakhs during the thirty-five years anterior to 1765. Small wonder then that the zamindars fought against the loss of this source of profit involved in Henckell's introduction of grantees on the outskirts of the Sunderbans, and no doubt looked upon Henckell much as the Conservatives looked upon Mr. Lloyd-George during his early tenure of office as Chancellor of the Exchequer. The hostility of the border zamindars militated against the success of the scheme. Every attempt was made by them, by fair means or foul, to establish claims of title or possession to the grantees' land. In 1786 Henckell attempted to cut away the ground from the claimants' feet by demarcating the northern limits of the Sunderbans by bamboos planted along the banks of rivers; the proceedings were widely known as Henckell's "bangari", but vague claims to Sunderban forest as far south as the sea were still put forward. Finally in 1788 the Board issued a general notice to the zamindars to define

their own boundaries within three months on pain of forfeiting all land south of Henckell's bangari. This brought the zamindars into the open with definite claims, and it was at last possible for Henckell to decide on the validity of the grants which he had already made. He went into the matter with characteristic care and released to the zamindars all lands to which they could show a reasonable title, giving, in several cases, fresh Sunderban lands to the old grantees to replace the lands so released. For the future the zamindars could not put forward legal claims, but they substituted covert hostility to the grantees and succeeded in dispossessing many of them. Only the most powerful survived, and in this process of elimination the original raiyati character of the grants was lost sight of, and the grantees settling their own tenants on the land became known as Henckell's talukdars.

138. The taluks after the Permanent Settlement.—At the time of the decennial settlement in 1790, Mr. Locke, who was responsible for that settlement in Jessore, made a final searching enquiry into the rights of the grantees. All cultivated lands to which the zamindars could establish title or of which they were clearly in possession were united to their zamindari for the purposes of assessment, and all grants which survived were reassessed and included in the decennial settlement as if they had been kharija taluks. They were not however given a fixed assessment, but were assessed at progressive rates according to the terms of their leases, and stipulations as to assessment on increased cultivation were left in force. When the decennial settlement was made permanent in 1793, the position of the talukdars remained untouched, but the taluks, about this time, advancing a step further from their origin as raiyati holdings, became popularly known as parganas, and the title has in many cases survived in popular parlance to this day, no doubt confirmed by the subsequent daimi settlements (settlements in perpetuity), which were granted many years later to genuine Henckell's taluks. These taluks appear to have been only sixteen in number at the time of the Permanent Settlement. In the present Sathkhira subdivision seven taluks, Pranpur, Ramjannagar, Bhairabnagar, Bansipur, Gutlakati, Ismailpur, and

Govindapur, existed in the neighbourhood of the Jamuna river, and though the original taluk lands, together with considerable extension of cultivation, have been long permanently settled, the old names can be traced in the village names in the south of Shyamnagar police station. In Khulna subdivision three taluks, Banchanagar, Basharatpur and Babupur become united under the name of Babupur: these names do not survive, but the lands of the taluks can be traced from old Sunderban maps, in the neighbourhood of Patnikhali village in Paikgachha police-station. Two other taluks Mahomedabad and Kalidaspur survive as Government estates and came under resettlement in the present operations. Their history is as follows.

Mahomedabad and Kalidaspur were among the original grants made by Mr. Henckell in 1785, but as the border zamindars were able to establish a title to the lands comprised in the original grants, these lands were released to them in 1790 and fresh settlements of jungle land were given to the grantees in the locality where these estates now exist, the old names being preserved.

Mahomedabad was settled with one Mahomed Safi, but as he defaulted in revenue, it was purchased by Government in 1798 and kept khas till 1811 when it was resettled on a permanent revenue with the son of the former settlement holder. The latter soon sold his rights to two persons, 10 annas to one Gouri Charan Ghosh, and the remaining 6 annas to one Bakaula, and at the purchasers' request the estate was partitioned between them in about 1820. The villages, of which the Government estate is now composed, *viz.*, Hatidanga, Gajalia, Kalua, Kaiya Chittabunia and Maukhali fell to the 10 annas share, which passed to Government by another sale for arrears of revenue in 1823. During the last hundred years its management has fluctuated between khas management and settlement with lessees, and has always been fraught with difficulty owing to the increasing salinity of the Kobadak and Menus rivers, which have caused periodical destruction of crops by inundation. The crying want of the estate is a strong system of embankments like those which have been erected in the neighbouring estate of Soladana, or in Betkasi and Gabura further south.

The expenses of erecting such embankments are however very great, and it seems improbable that Government will be in a position to provide the necessary capital outlay. Three other neighbouring estates, *viz.*, Kalidaspur, Chandkhali and Kharia Dhamshakhali are in a similar condition, and as a result of the enquiries made during jamabandi proceedings in these four estates, the question of khas management or lease to a substantial capitalist has been referred to the Board of Revenue for orders, which at the time of writing have not yet been issued.

The history of Kalidaspur is similar to that of Mahomedabad except for the fact that though its right as a Henckell's taluk was extinguished by sale for arrears of revenue, it was continuously resettled in ordinary Sunderban talukdari form for upwards of a hundred years until in 1919-1920 the existing talukdar gave up his rights to the estate, and it has since been held in farming lease pending regular settlement. As described above, the question of its future management is now pending with the Board of Revenue. Estate Kalidaspur comprises the following mauzas:—

Kalidaspur. Kantabunia.
Chak Kaowali.

In Bagerhat subdivision three taluks occurred, *viz.*, Asmatpur, Gokulnagar and Ballabhpur. The former lay on the east of the Pasur river in the present Rampal subdivision directly opposite to the mouth of the Chunkuri khal; Gokulnagar and Ballabhpur lay side by side in the large bend of the Putimari river near the villages of Bara Kathali and Chota Kathali in the present Rampal police-station. All three have now been permanently settled. The sixteenth taluk Chandipur lay outside the boundaries of the present Khulna district, at the junction of the Baleswar and Kochua rivers in Bakarganj district. Besides these taluks there were two khas abads Henckell-gunge and Chandkhali, described above; the third khas abad Kochua was released in favour of the zamindar claimant in 1790.

139. **Morrieson's survey.**—The next event of importance in the Sunderbans was the survey of the Sunderbans from the river Hooghly to the river Pasur in 1811-14 by Lieutenant W. E. Morrieson,

and the correction of this survey in 1818 by his brother, Captain Hugh Morrieson. As far as Khulna district is concerned, their survey was confined to the area between the Kobadak and Paśur rivers and to the waterways between the rivers Mangla and Baleswar. The maps of the area between the Kobadak and Koyra rivers are specially valuable as this area subsequently lapsed into jungle, and Morrieson's maps are the only reasonably reliable evidence of the original condition of the tract.

140. Smelt's operations.—Up to the first decade of the nineteenth century the question of Sunderban settlement was confined to waste lands; Henckell's grants had been entirely forest grants, and no question of resumption of unauthorised cultivation had arisen. This was subsequently to become the burning question in Sunderban revenue history. The first indication of this was the action taken by the Board of Revenue in 1814 who, affirming as a matter of notoriety that the whole of the Sunderban tract (with the exception of the areas covered by Henckell's taluks and similar taluks in the 24-Parganas district called patitabadi mahals) was excluded from the zamindari and belonged absolutely to the State, considered it desirable for the State to assert its claims to such land which had been surreptitiously reclaimed. Enquiries were accordingly instituted under the orders of Government: these enquiries, in the area now covered by Khulna district, were conducted by Mr. Smelt who was appointed for that purpose in 1815. The primary object of his appointment was to ascertain the extension of cultivation by Henckell's talukdars and to assess such extension in accordance with the terms of their pattas. He was also directed to measure all lands reclaimed by persons other than Henckell's talukdars with a view to their assessment.

These operations were important as the first attempts to assess both genuine "taufir" or excess land and also unauthorised cultivation. In the former case the cultivation was authorised and the object of the enquiry was merely to ascertain what revenue should be paid by the reclaimer; in the latter case the reclamation had been without authority by persons with no right in the Sunderbans and the ascertainment of the extent of such cultivation was a necessary preliminary to deciding how to deal

with it. The operations were conducted with the utmost speed; about a square mile per day was the rate of progress. Naturally the survey was rough and the calculation of area at best approximate, but no interior details were measured, and the fact that the blocks of land (or choks as they are called) in the Sunderbans were universally bounded by rivers or khals made approximate survey and calculation of area a simple matter. Government accepted the accuracy of the survey and passed orders on the results.

These orders were of a liberal nature—never again imitated in the case of unauthorised reclaimers. The latter were given a proprietary right in the lands reclaimed by them, including a right to malikana on recusance; their lands were assessed generally at eight annas per bigha, but declared liable to assessment at an equitable jama at any time. The privileged pattadars or grantees were given a further right to hold their lands at eight annas a bigha in perpetuity, and remeasurements were prohibited at intervals of less than five years. In both cases a point of some importance was claimed by the lessees and allowed by Government; the standard of measurement was accepted as a bigha of 55 yards square (*i.e.*, 110 cubits to the rassi), this being the traditional Sunderban bigha.

141. Appointment of Commissioner in the Sunderbans.—While the question of reclaimed land was thus being dealt with, the question of the untouched forest land was occupying the attention of Government. A reference on the subject was made to the Board of Directors, and a reply was received affirming the principle of the proprietary right of Government in all lands not included in the decennial settlement, and directing encouragement of reclamation of the Sunderbans forests. This led to an event of importance, the appointment of the Commissioner in the Sunderbans (in virtue of Regulation IX of 1816) with duties, powers and authority of a Collector of Land Revenue: Mr. Scott was appointed as the first Commissioner.

For several years the attention of the Commissioner was confined to the 24-Parganas district, and though in 1821 the Commission was reconstituted and strengthened by the addition of a survey party, the eastern limit of the Commissioner's activities appears to have been

the river Jamuna till the year 1839 : only a small portion of this area, namely, the land between the Kalindi and Jamuna rivers falls within the present district of Khulna. The main work which was at first entrusted to the reconstituted Commission, was "the demarcation of public lands from private property in order to prevent future encroachment". These were defined in the instructions issued to the then Commissioner, Mr. Dale, as likely to fall into two classes (i) lands the property of the State and unreclaimed and (ii) lands claimed by individuals, but believed to be the property of the State. These two classes in fact covered all land outside the decennially settled area, whether virgin jungle or surreptitious reclamation, except the previous jungleburi grants : a special enquiry into the cases of the latter was enjoined, but as the great majority of them were patitabadi mahals outside the boundary of the present Khulna district, this question does not require detailed notice here. The important point is that the claim of the State to property in surreptitious cultivation outside the limits of the decennial settlement was clearly made.

142. Prinsep's survey.—In compliance with these instructions, Mr. Dale and the Surveyor Ensign Prinsep proceeded in 1822 and 1823 to demarcate the boundaries separating State from private lands, working westwards from Prampur on the river Jamuna, in the extreme west of the present Khulna district. They soon discovered that instead of the two classes anticipated, there was only one class, namely, lands claimed by individuals, for no land-holder would for a moment admit that Government had any right to property in an acre of soil even in the depths of the forest; everything was claimed as appertaining to the zamindaris. Government was, however, by no means prepared to admit this claim, and as a prelude to deciding it, Ensign Prinsep was directed to demarcate the actual forest line from the river Jamuna to the river Hooghly : as stated above the great majority of this survey fell outside the limits of the present Khulna district.

143. Government's rights in the Sunderbans.—Government then proceeded to review the whole question of the Sunderban areas not included in the decennial settlement. As stated above, the views taken of the rights of Government in the Sunderbans were from

the outset divergent; prior to the Permanent Settlement Grant had recognized the rights of the zamindars to ameliorate the waste of the Sunderbans subject to the payment of the State's due share of the resultant profit, while later on in 1814 the Board took the view that the waste lands of the Sunderbans were the absolute property of Government. A gradual revulsion, however, took place to the views of Grant that the waste lands appertained to the adjoining zamindaris, and it was argued that the assessment of the zamindaris having been settled once and for all in 1793, it was not open to Government to reassess Sunderban land. The point was discussed in the course of a civil case in 1816 but Government's proprietary title was upheld : Government however came to the conclusion that the matter should be set at rest by legislation.

144. Resumption Regulations.—This led to the passing of Act XXIII of 1817. The preamble of this Act is important. "There is reason to believe" it ran "that extensive tracts of land lying within that part of the country which is ordinarily denominated the Sunderbans and which at the period of the formation of the Permanent Settlement was entirely waste and not included within the limits of parganas, mauzas or other known divisions of estates for which a settlement was concluded, have been brought into cultivation and are now occupied by individuals without payment of revenue but the inherent title of Government to a certain proportion of the produce of every bigha of land, in all cases in which it shall neither have transferred its right thereto for a term or in perpetuity nor have limited its demand by a distinct agreement with the proprietor or possessor, has uniformly been avowed and acknowledged; and in pursuance of that principle, Government are already entitled to assess all lands of the nature of those above described". It will be noticed that this preamble asserts the right of Government to assess Sunderban land, but does not specifically assert Government's proprietary right therein though this proprietary right had been claimed "as a matter of notoriety" by the Board of Revenue in 1814 and definitely asserted by the Court of Directors in a despatch of the same year. The distinction between the right of property and the right to assess to revenue is of fundamental importance in revenue administration, but the distinction does not seem to have

been recognized at this period. Attention was focussed on it later when the distinction was drawn between alluvial accretions to private property and islands formed in a navigable river, and in the later Regulation dealing with Sunderban resumption (Regulation III of 1828), the State's right of property is unequivocally asserted. The wording of the preamble of Regulation XXIII of 1817 cannot be taken to mean that the State forewent its proprietary right in the Sunderbans in favour of usurping claimants.

The details of the resumption procedure laid down by this Regulation are not important now. They were modified and improved by Regulation II of 1819, but by an unfortunate omission, the latter act made no reference to Government's rights in the Sunderbans. The zamindars seized the opportunity to reassert their previous claims that the whole of the Sunderbans had been included in their permanently settled estates, and to deny not merely Government's proprietary right but even its right to assess revenue on extended cultivation. Meanwhile the famous regulation which still governs temporary settlements (Regulation VII of 1822) was passed and was extended to the Sunderbans by Regulation IX of 1825. This act also provided for investigation into liability to assessment, concurrently with settlement operations. But the opportunity to remove the radical defect of Regulation II of 1819 was not seized, and the Board now proposed the supplementing of Regulation II of 1819 by a new enactment "declaring the exclusive right of Government to the whole of the uncultivated Sunderban waste and of speedily delineating the waste throughout the districts bordering on it". Part of this delineation had been already carried out by Ensign Prinsep, and it was now proposed to complete the work for the area between the Jamuna and the Meghna. Government agreed with the Board, but with regard to the assessment of cultivated land outside the forest area whether surplus land of jungleburi taluks or unauthorised encroachments by border zamindars, it proposed to await the decision of the civil courts.

145. Regulation III of 1828 and Government's proprietary right.—This led to the enactment of Regulation III of 1828, the most important enactment in

Sunderban revenue history. The wording of section 13 runs as follows. "The uninhabited tract known by the name of Sunderbans has even been and is hereby declared still to be the property of the State: the same not having been alienated or assigned to zamindars or included in any way in the arrangements of the perpetual settlement, it shall therefore be competent to the Governor-General in Council to make, *as heretofore*, grants, assignments and leases of any part of the said Sunderbans and to take such measures for the clearance and cultivation of the tract as he may deem proper and expedient. . . . The boundary of the said Sunderban jungle shall be laid down by accurate survey as determined on the spot by the Commissioner of the Sunderbans and any zamindar talukdar or party interested shall be entitled to receive a copy of the survey map". From this section it is clear that all land south of the boundary line (later known as the Dampier-Hodges line) so laid down, is the property of Government. This has never been seriously questioned. But there was a considerable area which was Sunderban jungle at the time of the Permanent Settlement, but which had been brought under cultivation between 1790 and 1828. Part of this area had been included in Henckell's taluks and in the settlements made after Smelt's measurements as described above. The rights of the holders of these areas were clearly governed by their existing pattas. The residue however which was not included in any such patta was open to resumption, and the question remained whether the State had a proprietary right in such land, or whether it had only the right to assess such land to revenue, leaving the person found in possession as proprietor. The question was often mooted in subsequent Sunderbans history, and the answers were by no means unanimous. The case for the State's proprietorship is based upon the contention that all Sunderban waste which was excluded from the Permanent Settlement is *ipso facto* the property of the State. The reclamer of jungle could, and often did, show that reclaimed land was included in the boundaries of his permanently settled estate. In this case the State could claim neither proprietorship nor the right to assess further revenue, the revenue having been settled in perpetuity. But where the area was not

included in the permanently settled estate, the reclaimer could only claim proprietorship by virtue of a statutory enactment, in the same way as a proprietor of an estate can claim proprietorship of fluvial accretions by virtue of Act XI of 1825. The fact that under the early fiscal arrangements in Bengal, as described by Grant, the zamindars exercised unchecked the right of "ameliorating the waste" of the Sunderbans and consolidating the reclaimed area with their zamindaris is no legal justification for maintaining that after the Permanent Settlement, they should be recognized *de jure* proprietors of lands, of which they were not granted proprietary right by the Permanent Settlement or any other subsequent Regulations. This case is surely valid; it is the view which has been adopted in this settlement in the few cases where lessees of resumed Sunderban estates claimed proprietorship of the estates. It should be added here that at the outset of the present operations, the Board of Revenue's instructions were asked as to whether in the case of claimants to proprietorship in resumed estates of this nature, the Settlement Officer should be bound by status accorded by previous Commissioners in the Sunderbans, some of whom appear to have grievously overlooked the provisions of the law in their settlements. The reply of the Board (conveyed in their No. 5197 W. L. of 28th July 1922) was to the effect that each case was to be dealt with on its merits, and that status previously accorded by Commissioners in the Sunderbans was not necessarily to be regarded as binding. In carrying out these instructions, in the light of the above views of the law, proprietorship has been refused to a few persons who previously had been granted proprietary settlements; up to the time of writing, the decisions in these cases have not been seriously contested before any civil court or higher revenue authority.

The other provisions of Regulation III of 1828 referred to the procedure for resuming land which was liable to resumption. Briefly speaking the Act provided for appointment of Special Commissioners for determining the rights of parties in resumption proceedings. Proceedings were to be instituted by the Collector or other local officer (including of course the Commissioner in the Sunderbans), and an appeal against his decision might be filed either by Government or by the adverse party to the

Special Commissioners whose decisions would be final. Powers of the civil courts in regard to such cases were transferred to the Special Commissioners.

146. The Dampier-Hodges survey.—The enactment of this Regulation was soon followed by the definition of the Sunderbans boundary for which it provided. This was carried out by Mr. William Dampier, Commissioner in the Sunderbans, and by Lieutenant Alexander Hodges in 1829. This survey traversed practically the whole of Khulna district from Pranpur on the Kalindi river to the junction of the river Panguchi (or Jiudhara as it was then called) with the Baleswar. The boundary was described in a series of robokaris prepared by Mr. Dampier which gave the names of the villages, estates or rivers lying along it, and maps illustrating his robokaris were prepared at the same time. The boundary can be easily identified with the help of the maps, and robokaris but in two places some difficulty has arisen. Between the rivers Kobadak on the west and Koyra on the east cultivation which spread far south in the early years of the nineteenth century had retrograded owing to saline inundation and lands which Morrieson's maps and the quinquennial papers show to have been under cultivation were now covered by dense jungle. Only mauza Gobra (a part of the present village of Madiner abad), and some area in the neighbourhood of Boga was under cultivation. It was clearly misleading to include this area in the Sunderbans forest, for the rights of the zamindars subsisted there. Mr. Dampier accordingly directed that the line of forest as shown in Morrieson's maps of 1818 should be marked on Hodges' maps as the Sunderban boundary. Hodges was also directed to survey the actual line of forest, but it does not appear that this was ever done.

The other place where difficulty occurred was in the area between the present Paikgachha police-station and the junction of the Chunkuri khal with the Pasur river. Here the difficulty lies in the fact that the robokaris of Mr. Dampier do not agree with Hodges' maps. The robokaris show the boundary as running from the Sipsa river along the Badurgacha and following the line of the Bhadra river as far as its junction with the Maukhali Doaniya khal at the south-eastern corner of the present village of

Lakshikhola. Thence the line is described as running along the Maukhali Doaniya khal, leaving abad Pankhali on the north and joining the river Pasur on the north-east side of Pankhali *i.e.*, probably at the mouth of the present Chunkuri khal. Chunkuri abad, *i.e.*, the present village of Chunkuri, was also excluded by the robokaris from the Sunderbans. Hodges' line is however very different. Instead of following the line Sipsa-Badurgachha, he showed the forest boundary as running northward along the Haria river, thence eastward to the junction of the Gengrail and Bhadra and southward along the Bhadra as far as the Deluti river. The line then passed along the north and east of Harinkhola village, east of Darun Mullick's abad and joined the Badurgachha south of village Kalinagar, near its confluence with the Bhadra. Thence it proceeded in a south-easterly direction rejoining the Bhadra at its junction with the Dhaki, cutting off the present village of Tildanga from the forest, and running northward along the Bhadra to rejoin the robokari line at the mouth of the Maukhali Doaniya khal. Thence taking a loop which approximately though not necessarily accurately corresponds to the northern boundaries of villages Khatali and Baruikhali, it joined the Chunkuri khal near its confluence with the Bajua khal and ran down that khal to its confluence with the Pasur. The difference between these lines has been described in detail here, as the area has been a scene of much litigation in the past, and the difficulties connected with this area are perhaps not yet at an end. The cause of the discrepancy was undoubtedly the fact that the area in question had been at some time or other partially cleared and had relapsed into the jungle characteristic of Sunderban deserted clearings. Such clearings are to be seen now in the 24-Parganas district; to the eye of one man they would represent forest, to the eye of another their true character of old clearings will be apparent. We can only regret that Dampier and Hodges did not collate their results and arrive at a unanimous decision; it may be a satisfaction to some Settlement Officers to feel that kanungos and amlas are not the only people who scamp their janch at times.

An important result of the Dampier-Hodges survey was the preparation of Hodges' maps of the Sunderbans. The original plans were prepared on a scale

of four inches to the mile and reduced to a scale of one inch to the mile. On the basis of the latter map and of the previous maps prepared by Morrieson and Prinsep, a complete map of the boundary of the Sunderban forest from the Hooghly to the Meghna on the scale of two inches to the mile was prepared in 1831. Prinsep had previously divided the area surveyed by him into lots, and Hodges continued the process up to the river Pasur, revising Prinsep's numbering and making a complete series of 1-236 from the Hooghly to the Pasur. A series of the four inch and one inch maps are available in the Khulna Collectorate, but no two inch map can be found.

147. The estates north of the Dampier-Hodges line.—

The passing of Regulation III of 1828 and the demarcation of the Dampier-Hodges line represents the close of the first epoch in Sunderban history. It is however a mistake to look upon it as the beginning of Sunderban history, and it is impossible to agree with Mr. Ascoli in his Revenue History of the Sunderbans when he describes the Dampier-Hodges line as "the northern boundary of the Sunderbans" and refuses to recognize as genuine Sunderban estates any area north of that line (*vide* Ascoli's Revenue History of the Sunderbans, pages 3 and 69-70). All lands brought under cultivation between the Permanent Settlement and 1828 were naturally shown outside the Dampier-Hodges line of forest, but the resumption of these areas and their subsequent administration was an integral part of Sunderbans administration. In the authoritative map of the Sunderbans prepared by Ellison under the direction of the Commissioner in the Sunderbans in 1873, many estates of this nature are shown north of the Dampier-Hodges line which is correctly given in that map as the boundary of Sunderban forest and not, as Mr. Ascoli describes it, as the "boundary of the Sunderbans". Again in the instructions issued by Mr. Gomes, Commissioner in the Sunderbans, to his Deputy Collector, Mr. Madge, dated 3rd December 1863, the following sentence occurs: "*In all Sunderbans estates whether resumed or falling within Hodges and Prinsep's boundary, the Government is the malik or proprietor*". In view of these authoritative pronouncements and of many others which could be cited from old Sunderbans correspondence, Mr. Ascoli's strictures on the Khulna

Collectorate for treating estates north of Hodges line as Sunderban estates are, I think, unmerited.

148. **Resumptions.**—At first the collection of revenue from certain specified parganas was a part of the Sunderban Commissioner's duties, but from 1829 onwards his duties were confined to resumptions, forests, grants and settlements in the area west of the Jamuna: in 1830 the area was extended to include all tracts bordering on the Sunderban forest. Prior to 1830 the duty of instituting resumption cases had lain with the Collector and considerable progress had been made. After 1830, these duties, including the decision of pending cases, were transferred to the Sunderban Commissioner, who simply carried on the Collector's work. It will therefore be convenient to describe as a whole the resumption work done by Collectors and Sunderbans Commissioners in the area comprising the present Khulna district. These resumptions covered both the area south of the Dampier-Hodges line and also such areas north of that line as could be shown by adequate evidence to have been Sunderban jungle at the time of the Permanent Settlement and not to have been included then in any estate permanently settled. In 1825 a block of land was resumed covering the present villages of Haria, Dholai, Sankardana, and Tetultala lying at the junction of the Haria and Sipsa rivers; Orabunia near Paikgachha was resumed at the same time. Next year, in 1826, a group of chaks further to the north lying between the Gengrail and Shalta rivers was resumed. These chaks were Khagra-buniya, Koipukhuria, Magurkhali, Parmagurkhali, Hetalbuniya, Korakata, Suargodi, Ahladipur, Jharjhariya, Sibnagar, including Kataliya, Ghazinagar, Ghurnia, Bagardair and Kalajungla or Parmandatola. Taltola near this group of estates and Putimari somewhat to the south were resumed about the same time. South of the Sipsa near the present Soladana, Harijipatan, Khaliya and Harikhali were resumed in 1826 and further west ward Chandmukhi (in three portions) in 1828; Andarmanik north-east of Haria was resumed in 1830. Further eastward between the present Paikgachha Thana and the Kobadak river, Bharbariya (including Kumibuniya), Kalmibuniya, Bogara and Romardanga, Nowalitola, Bashiva, Beharibita, Sinjore, Bashakhali, and Siberhati, and adjacent to Putimari,

Samukpota, Pana and Bahirbuniya were all resumed in the same year, also Bhairabghata and Bankeswar further westward. In the present Satkhira subdivision Gumantali, Jabakhali and Betangi, all in the neighbourhood of Pratapaditya's capital Iswaripur, were resumed in 1830. In the present Bagerhat subdivision adjacent to pargana Selimabad important proceedings for no less than 72 chaks were taken up in 1832; Mr. Dampier, the Commissioner of the Sunderbans, who appears to have been misled by a proposal as early as 1790 to adopt as the Sunderban boundary a line corresponding to the present rivers Panguchi, Keora, Manikkhola released all land north of this line. His error was later rectified as will be described; but at the time he confined resumption to estates south of that line, including Phulhata, Jiudhara, Sonirjhor, Deotala, Baharbuniya, Ghusiyakhali, Manikkhola and Panchkaran. Of these estates, Panchkaran alone lies north of the Keora river, but no reasons are given for its inclusion in the resumption of the area south of that river: all of these were resumed in 1834. After the groups of resumptions described above as completed by about 1830, fresh enquiries were set on foot by Mr. Donnelly, Assistant to the Sunderbans Commissioner, in the area covered by the present Khulna district. He prepared elaborate lists of mahals which he considered open to resumption, relying apparently on Henckell's and Smelt's proceedings to determine what areas were new cultivation. These lists contained about 175 names, many of which are totally unidentifiable and served more as a general guide to areas where resumption might be taken up than as actual basis for resumption. Actually between 1830 and 1836 Nasimabad near the junction of the Golghasia and Kholpetua rivers appears to have been the only estate effectually resumed. Reference has been made above to the release of 72 mahals adjacent to pargana Selimabad by Mr. Dampier on a mistaken view of the Sunderban boundary line. His error was detected by his successor Mr. Grant, and in 1835 an appeal against Mr. Dampier's decision was preferred on behalf of Government to the Special Commissioner. Detailed local investigations were made, and eventually the following estates were resumed: Harganti, Kalya, Kayardia, *alias* Gupardia, Nazirdiya, Abdulrasulpur, Panchamalber, Mallikber, Bansbariya, Madradiya, Kapalibandi, Narendrapur,

Jeolmari, Baintala, Betkata, Khondkarber, Debraj, Kumariyajola, Mahischarania, Gazaliya, Kharoikhali, Sataluri, Gatipur, Fakirtakiya, Bhatkhali, Putikhali, Gazirghata, Haldaha Sannyasi, Betbuniya, Charadaha, Teli-ganti, Dhuliganti, Kakarbil, Kalyapara, Bistupur, Nalbunia, Narsingdatther, Gazaliyaber : an adjacent chak Mistri danga was discovered and resumed in 1837. Reference has been made above to the list of resumable mahals prepared by Mr. Donelly when he was Assistant to the Sunderbans Commissioner in 1832. Later on, in 1836, he became Collector of Jessore, and once more devoted his attention to the question of Sunderban resumption. The list of resumable estates which he had previously prepared had been based mainly on local enquiries; after he became Collector, he turned to documentary evidence, and adopting the argument that all lands included in Henckell's pattas must be resumable as having been Sunderban jungle at a period approximating to the date of the decennial settlement, he drew up a list of Henckell's patta lands as the basis of the investigation: this list contained Henckell's well known taluks, referred to above, and a large number of other lands, some of which were identifiable, others untraceable. Among the identifiable lands, some, *e.g.*, Magurkhali, Koipukhuriya and Khagrabuniya had already been resumed. About the same time the Sunderbans Commissioner Mr. Grant engaged himself in a detailed scrutiny of the results of old resumption suits, which he considered had been wrongly decided against Government by fraud or mistake. His activities led to the detection of Mr. Dampier's mistake in the case of the Selimabad chaks referred to above, and other similar enquiries were taken up by him under the direction of the Board. At this period, with Donelly as Collector of Jessore and Grant as Sunderbans Commissioner, there seemed every prospect of much successful resumption in the Sunderbans. The expectation was however falsified; Grant vacated office in 1836, and his successors appear to have lacked his wide knowledge of Sunderban history; resumption proceedings after this date were consequently somewhat spasmodic. Boyersingh (including Taltola and Sadhughata) was resumed in 1838, Bil Gudara in 1844 and Suarnal in 1845; and in 1838 and 1839 a considerable area of invalid lakheraj land including

the chaks of Taraf Madhukhali adjacent to the Bhadra river, Hetalbunia, Lakshikhola, Kharia, Damshakhali and Anandatola Haripur (now known as Alamtala) was resumed as Sunderban land and became the property of the State. Kantamari near the Sipsa river north-west of Khalia was settled as Sunderban land apparently without any formal resumption proceedings in 1844, and the following estates in or near lots 217, 218 and 220 were resumed about the same time: Laskarber, Alakdiya, Dhoramari, Dighalia, Geubania, Charki Barki, Guachoba, Nangalmora, Boalmari, Kumibunia, Helakardanga and Badiyarkona. Later on, in 1855, a small group of estates, Basudebpur, Dargatala and Saranpur were resumed between the Kobadak and Kholpetua rivers; Govindapur Mustafapur south of Bagerhat, was also resumed about the same time; Bowliaghata (*alias* Hayetkhali) was resumed in 1848 and Nagar Jamira and Badanhalderber in 1850. Subsequent to the revenue survey, there appears to have been some slight recrudescence of activity in resumption, for Biralakhi and Kasimari adjacent to the river Kholpetua opposite Protapnagar were resumed in 1859, and in 1867 long delayed proceedings in the case of Khonarmet were finally brought to a successful conclusion.

149. The Khonarmet Case.—After Khonarmet had been resumed, proceedings were instituted in respect of the adjacent areas of Chak Khatali, Chak Baroikhali and Par Chalna. The former was resumed in 1882 and the latter two in 1883. Par Chalna was then given by Government to the encroaching zamindar, the Raja of Chanchra, in exchange for the un-resumed portion of Baroikhali, and as a part of the agreement the Raja was given proprietary rights in the resumed areas, which were formed into Tauzi No. 989 of Khulna Collectorate. After the suit for Khonarmet had been won by Government, the Raja apparently anticipating the further resumption which actually took place created a permanent lease at fixed rent, in favour of one Ramtaran Chatterjee, of certain lands in Pankhali and Khatali; ultimately the latter chak but not the former was resumed. During the present settlement proceedings, a fair rent has been fixed for this tenure, so far as it falls within the area under resettlement, on the ground that as the tenure

was created when there was every probability of the land being resumed it is not binding for purposes of assessment against Government, and that both in law and equity the provisions of section 192 of the Bengal Tenancy Act apply. The enhancement was upheld by the Director of Land Records in an objection under section 104G., but is now being resisted in the civil court. The Board of Revenue has increased the proprietor's allowance from the usual 30 per cent. to 50 per cent. on the ground that there is likely to be difficulty in the realisation of the rent of this tenure.

SETTLEMENTS OF RESUMED ESTATES.

150. Resettlement of Sunderbans resumed estates during the present operations.—The great majority of the Sunderbans estates which came under resettlement in the course of the present operations were resumed estates. The following were the main problems which had to be faced:—

- (I) The status of the lessees.
- (II) The rate of rent and the valuation of lessees' and tenure-holders' nijdakhal land.
- (III) The treatment of subordinate tenure-holders.
- (IV) The revenue or rent payable by the lessees and the treatment of embankment allowances.
- (V) The kabulyats of the lessees.

151. Status of lessees.—The question of Government's proprietary right in Sunderban resumed estates has been discussed above, and the principles followed in this settlement have also been described. Briefly stated, the proprietary right of Government has been recognized in all cases except where proprietary right has been specifically granted to the lessees by Government or by the Board of Revenue: an example of this is estate No. 989 Khonarnet where proprietary right was granted to the Chanchra Raja as a part of a compromise in litigation. When estates were first resumed, it was usually found that the zamindar of the adjacent permanently settled estate had leased out the Sunderbans land as his zamindari to one or more substantial middlemen who were responsible for the clearance and embankment of the estates and who in turn leased out the land to cultivating

tenants. After resumption, the middleman who had expended money and labour on reclaiming the jungle, was recognized as the person with whom the settlement of the estate should be made and usually settlement was made with him as "abadkar". Occasionally however no such middleman existed, or if he existed, he was unwilling to take settlement. In such cases settlement was offered either to the usurping zamindar or to a substantial middleman of an adjacent estate. Such settlements were vaguely termed "farms" at first, but the word farmer in this case connoted a more privileged individual than the modern farmer, who is a mere collector of rent. The zamindar or the adjacent middlemen were recognized (probably on the principle that through their exertions the jungle was to some extent reclaimed) as having a permanent though somewhat indefinite interest in the estate. Section 10 (2) of Regulation VII of 1822 speaks of talukdars and other hereditary malguzars; it is to these classes respectively that the abadkar and the early farmer belonged. Later on the two classes of lessees were crystallized into "talukdars" and "malguzars" respectively and separate forms of kabulyats were devised embodying the rights to which these classes were considered to be entitled. It sometimes happened that an estate which was already under cultivation was sold up and purchased by Government, and then leased out to an outsider who had expended no capital on its development. Such outsider was termed a farmer and was in fact a farmer in the modern sense, possessing no subsisting rights beyond the term of his farm. Thus by 1870 we find the lessees of resumed estates divided into three classes "talukdars", "malguzars" and "farmers". At each resettlement the Sunderbans Commissioner decided to what class he considered the lessee belonged, and he offered the settlement accordingly, giving his reasons in the final report of the settlement. At times these reasons were very wide of the mark and actual misstatements of fact have been detected; usually the lessees accepted the status offered, without protest, but in a few cases they appealed to the Board of Revenue and it is from the decisions of these appeals that it has been possible to ascertain what rights were considered to accrue to each class of lessee. In the present settlement the principle adopted

has been to recognize as valid the status given in the last settlement provided either it is in substantial accord with the history of the estate, or that this status has been definitely granted by the Board of Revenue to a lessee who would not otherwise be entitled to it. In a few cases where the history is obscure, existing status which has been enjoyed for at least two periods of settlement has been assumed to be valid. As a result only a few cases have occurred in which the status given at the last settlement has been changed. Up till now all such decisions have survived appeal. As regards the rights enjoyed by each class of lessee, the *abadkari* talukdar has all the rights of a permanent tenure-holder, *i.e.*, his right in the estate is heritable and transferable, but he is bound by the stipulations in his lease. There was a tendency with some Sunderbans Commissioners to speak of these tenure-holders as *shikimi* talukdars, *i.e.*, middlemen talukdars holding under Government as proprietor. This was no doubt based upon the fact that Government stepped into the shoes of the usurping zamindar after resumption, and hence the old tenure-holders subordinate to the zamindar became tenure-holders subordinate to Government. But this does not represent the full state of affairs, for Government chose the tenure-holder or perhaps one of several tenure-holders to take "bandabust" of the estate, *i.e.*, to have the rights and responsibilities of the "sadar malguzars" of the Regulations, who were granted settlements under Regulation VII of 1822. Strictly therefore from a historical point of view it might be argued that the Sunderbans talukdar has two rights in a Government estate, *viz.*, the original right as tenure-holder depending on his original contract with the usurping zamindar, and his right under Government as *sadar malguzar* governed by the terms of his settlement. But in practice no such distinction has been made; the two forms of tenure have grown up side by side like Siamese twins; if one died, *e.g.*, by private transfer or sale for arrears of revenue, the other right simultaneously perished. This position has been universally recognized and acquiesced in for the last fifty years; in the present settlement records these tenure-holders have been recorded as possessing full status of permanent tenure-holders, but the historical association has been preserved by giving the

tenures the *mudafat* or title of Sunderbans *bandabusta prapta shikimi talukdar* (সুন্দরবন বন্দোবস্ত প্রাপ্ত শিকিমি তালুকদার); as these tenures are transferable tenures, their rent has been treated as revenue under Act VII of 1868.

The *malguzar* of Sunderbans revenue history must not be confused with the "sadar-malguzar" of Regulation VII of 1822. The word *malguzar* means literally revenue transmitter; the Regulation uses the term of any personal channel by which land revenue flowed to the State coffers. The *malguzar* of Sunderbans revenue history, as explained above, was the person other than the *abadkar*, with whom a Sunderbans estate was settled after resumption; it was practically a *sine qua non* that the *malguzar* should have had some previous connection with the estate either as usurping zamindar or near neighbour; settlement was rarely made with a complete stranger. The *malguzar* thus occupied a privileged position though Government always refused to recognize that he had any right of property in the estate, and this position was fortified by the equitable consideration that most *malguzars* had to expend money on the protection of the estate from saline inundation. When therefore standard forms of *kabulyats* were devised for *malguzars*, they were granted a right of renewal of settlement in the following words: "Subject to due observance on my part of the other conditions of the *kabulyats*, I shall have as of right on the expiry of the term of settlement the option of accepting the new settlement subject to such revised *jama* as may then be imposed"; they were not however allowed to transfer, mortgage or sublease their rights in any part of the estate. The right of transferability is under the present law an essential ingredient of a permanent tenure, hence it has been impossible to recognize the *malguzars* as permanent tenure-holders. They have accordingly been treated in the present records as non-permanent tenure-holders with a perpetual right of resettlement so long as they hold the estate. It was indeed questioned by the Collector of the district whether the above mentioned renewal clause conferred anything more than the right to one renewal of settlement. Legally in view of certain High Court decisions, the Collector was right, but as it was abundantly clear from old

Sunderbans correspondence that up to 1910 the renewal had always been given as of right and in fact many malguzars had held the estates from father to son for nearly 100 years, the Board of Revenue decided that as a matter of equity the malguzars were to be treated as if they had permanent right of renewal: the new form of kabulyat was accordingly framed in such a way as to make this clear. As the tenures are not transferable, the sums payable by the malguzars to Government have been described as rent and not revenue in the kabulyats. The third class of lessees of resumed estates consists of farmers in the modern sense of the term, *i.e.*, persons who have no interest in the estate whatever beyond the duty of collection of tenants' rent and transmission of the same to Government, and the right of receiving a certain percentage of this rent. Few leases of this nature exist, for the protection and embankment of a Sunderbans estate is so precarious a matter that a terminable farming lease can never be satisfactory. No farmer will devote himself to an estate where he has no subsisting right, and there is a strong temptation to suck a few years' rent out of the tenants and then abandon the estate. Where such leases do exist, they are in no way different from the farming leases of other Government estates throughout Bengal; they have been treated as such in this settlement.

152. Rate of rent and valuation of proprietors and tenure-holders' nijdakhal lands.—In fixing the revenue of an estate, the first question is the determination of the raiyati rate. Upon this depend the profits of the lessee and the superior tenure-holders on the one hand, and the rents of the under raiyats on the other hand. In the early Sunderbans settlements a fully productive estate was reckoned capable of bearing a rate of eight annas per bigha of 40 yards square or roughly one rupee eight annas per acre. The great increase in the price of rice and the competition for land has sent up rentals everywhere in the Sunderbans, so much so that in some areas new tenants willingly contract to pay at rate ranging up to and in few cases exceeding ten rupees an acre. These areas are however exceptional; in many tracts there had been scarcity verging on famine in 1921 owing to the destruction of embankments by the

cyclone of 1919, and the increasing salinity of the water, owing to the natural causes described above, had rendered the prospects of an annual crop precarious. An account of the physical conditions of the Sunderbans estates and the natural causes of these conditions has been given above (*vide* Part I, Chapter I). The following brief recapitulation embodies the points which affected the jamabandi operations. The prime difficulty is the salt water which ruins the crops if it penetrates, in appreciable quantity, into the fields. The area which is most affected in this way is the tract immediately south and west of the junction of the Sipsa to the Kobadak by the Boalia khal: the fresh water from the Kobadak drains into the Sipsa through this khal leaving the above mentioned estates at the mercy of saline tides. The rest of the Sunderbans estates falling within Satkhira and Sadar subdivisions are to a less extent affected in the same way owing to the silting up of the head waters of the southward flowing effluents of the Ganges. In Bagerhat subdivision sweet water flows through the Gorai and Madhumati into the Sunderbans; the problem there lies in the sweet water flood caused by silting up of drainage channels, a far less serious problem than that of saline inundation. The following broad principles were therefore adopted in framing preliminary proposals for raiyati rates. In the area south and west of the junction of the Kobadak to the Sipsa by the Boalia khal, rentals were generally to be left untouched, in the rest of Satkhira and Sadar subdivisions a rental of three rupees per acre was to be adopted as a desirable criterion; in Bagerhat subdivision enhancement was to be made up to the level of the neighbouring permanently settled estates. It must be made clear that these criteria were only general—each estate was eventually scrutinized in detail and the rentals fixed after inspection of the estate and ascertainment of the views of lessees and tenants. Other points which were observed were as follows: contractual rents were usually maintained, for the Settlement Officer has no power to lower them without consent of the landlord; such consent was occasionally obtained where the rents were manifestly higher than the land could bear. The rents of under-tenants were fixed at 25 per cent. above the raiyati rate, and the provisions of

section 48 of the Bengal Tenancy Act were applied to cut down higher rates where this section applied. The terms of this section prohibit rates more than 50 per cent. above the raiyati rate, if fixed by written agreement; in absence of such agreement the under-raiyats' rates may not exceed the raiyats' rates by more than 25 per cent. The section however only applies to cases where the whole holding has been subleased, and it was only used in such cases. In other cases contractual rents were maintained. The land in immediate possession of tenure-holders and lessees was valued at the raiyati rate if cultivated by the ploughs or hired labour of such persons; but land sublet to borgadars (*i.e.*, persons paying a fixed proportion of the crop) was valued at 50 per cent. above the raiyati rate, so as to give the State its fair share of the great profits accruing from borga leases. In almost all cases one all-round rate for the village was aimed at and embodied in the preliminary proposals. It is usually impossible to make distinctions in Sunderbans land, for land which bears a bumper crop one year may lose its fertility by saline inundation, or a dry year may turn inferior marshy land into the best of soils. The only exceptions were in those estates where premature embankments, by the process described above (page 6), had left a marshy depression in the centre unfit to bear any but the scantiest crops. It was found in such cases that the marshy area, locally known as "dhapa", had been leased out to tenants who were themselves willing to pay rent for it in anticipation of crops in future years. Such areas were separately mapped and classed as dhapa lands and a nominal rent was assessed upon them. Similarly in some estates it was found that the tenants claimed the land outside the marginal embankments as part of their holdings though such land produced little or no crop. Some profit however accrued to the tenants, occasionally from grazing, and more often from the jungle produce; such areas were separately assessed at small rentals with the tenants' consent. In other cases an all-round rate was strictly observed in the draft rent-roll, and any one claiming preferential treatment on any ground whatever was heard by the Settlement Officer at the stage of objections under section 104E and orders were passed on his application. In fixing the rate, every effort was made to obtain tenants'

consent to the proposed enhancement; where they proved recalcitrant, the method of enhancement on ground of rise in price was normally employed. In a few cases, particularly in Bagerhat subdivision, considerable differences of rates were found in the same estate. Whatever had been the case at the last settlement, it was clear that no such distinction was now justifiable, and an all-round rate was adopted. This however involved greater enhancement of the lower rates than was justifiable on the ground of the rise in price of staple food crops; accordingly enhancement was made on the ground of prevailing rates. For determining the prevailing rates as far as possible rentals of similar land both outside and inside the village under settlement were looked to. In many Sunderbans estates small khals or isolated patches of jungle are frequently found; wherever possible, these were mapped as khal or unculturable land respectively and left out of assessment, but a residue of very small khals or patches of jungle at times remained, too small to be mapped. After some tests had been made in selected estates, it was decided to exempt 4 per cent. of the culturable area of all holdings from assessment, in those estates where these small khals and patches of jungle were found in appreciable quantity.

153. Treatment of subordinate tenure-holders. A great innovation in this respect was made first by Sir Nicholas (then Mr.) Beatson Bell in Bakarganj jamabandi proceedings. The integral part of these proceedings was the adoption of the raiyats' rents as basis of the assets and the calculation of the profits of tenure holders and other superior interests upon this basis. This principle was only arrived at after a struggle, for the tenure-holders put forward strong claims, based on old procedure, to have their rents fixed by the jamabandi Officer and to have their tenants left at their mercy for rack renting as they pleased. This is however ancient history now and such claims are entirely put out of court by the present Chapter X of the Tenancy Act. Having established this principle, the Bakarganj jamabandi Officers took the war into the enemy's country and proceeded to enunciate the principle that the profit of all tenures, except those whose right to separate profit had been

recognized by Government, was to come out of the profit of the superior interest who created them: in the words of the Settlement Officer of that district the provisions of section 191 of the Tenancy Act override the provisions of section 7 of the same Act. The reasons for the adoption of this principle lay in the long chain of subinfeudation prevalent in Bakarganj. It was clear that if the lessee of an estate were to be allowed say 25 per cent. of the raiyati assets and each of four successive subordinate tenure-holders were to be allowed 15 per cent. Government's share of the profits in its own estate would be entirely nugatory. It was only equitable that Government should not be a heavy loser by subinfeudation created by its own lessees, so the principle as enunciated above was adopted. Considerable elasticity was however observed, and in the Bakarganj Sunderbans the tenure-holders obtained a relaxation of this principle. This was no doubt partly due to the fact that there was much waste land in the Bakarganj resumed estates in the first decade of this century, and it was also probably considered inexpedient to follow too rigidly a new principle which was an undoubted source of loss to middlemen. Subsequently however the principle was crystallized into section 340 of the Survey and Settlement Manual of 1917, and this section has been followed strictly in the present settlement operations. In effect the provisions of that section are (I) that the profit of tenures created by settlement holders of estates never permanently settled do not operate to diminish Government revenue but come out of the profits of the creator, (II) that in cases where such tenures are created in contravention of an agreement between the creator and Government, Government will decline to recognize them even to the extent of fixing a fair rent for them; their *de facto* existence will however be recorded in the settlement records, (III) where such tenures are created by a farmer having only a terminable interest in the estate, which interest is about to expire, the tenures will be entirely disregarded.

In the majority of cases in this district the first of the above three principles applied. The Sunderbans talukdar, the lessee under the Waste Land Rules of 1853 and the Large Capitalist

Rules of 1879 are not restrained by any covenant in their leases from creating subordinate tenures; hence in their cases the subordinate tenures were recognized to the extent of fixing a fair rent for them, but such rent was fixed by giving the tenure-holder a share of the lessees' profits. But in the case of the malguzar and the lessee under the Small Capitalist Rules of 1879 their leases specifically forbade with certain qualifications, the creation of subordinate tenures. Accordingly the second clause of section 340, referred to above, was applied to them and no rent was fixed for the tenures so created, though they appeared in the Settlement Records. But if, as sometimes happened, such tenures, created in contravention of a covenant of restraint had existed at the last settlement of the estate and a fair rent had been fixed for them, it was considered that the breach of covenant had been waived, and they were now treated as if they were tenures created by a lessee having power to create them. As explained above, farming leases in the Sunderbans are very few; where they were found the third principle of section 340 was applied.

As regards the division of profit between the lessee and the subordinate tenure-holders, at the outset the principle of allotting the new profits strictly in accordance with present profit was observed. The question of the allotment of profits in such cases was raised by the Director of Land Records in 1924 and was discussed at the Settlement Conference of that year. The results of the discussion are embodied in the present rule 21 of Chapter XV of the 1925 Reprint of the Technical Rules. This rule represents the subsequent practice of this settlement, but some latitude has at times been given in estates where embankment costs or difficulty of collection in the Sunderbans have justified exceptional treatment.

154. The revenue or rent payable by the lessee.—Some care has been taken in distinguishing revenue and rent in view of past wrong use of the Sale Laws in Sunderbans estates. The following rules were adopted in this settlement; they were reported to the Board of Revenue and accepted by the Board.

INSTRUCTIONS FOR DETERMINING THE DATES OF PAYMENT OF GOVERNMENT REVENUE OR RENT IN ESTATES UNDER JAMABANDI.

All payments made to Government as paramount power are revenue and all payments made to Government as landlord are rent. The same payment may therefore be both revenue in the broad sense and rent. This explains the fact that the terms revenue and rent are used interchangeably in various Government Manuals.

There is however a narrower sense of the word Revenue, which will be found defined in section 1 of Act VII of 1868; this briefly stated, is that all sums payable in respect of a proprietary estate or of a transferable tenure held directly under Government are revenue. The importance of this definition is -

- (a) that all such sums are realisable by sale under the sunset Law;
- (b) that the last date of payment is fixed by the Board of Revenues orders issued under section 3, Act XI of 1859.

It will therefore be convenient to distinguish for the purposes of this note -

- (a) Revenue as defined above.
- (b) "Rent" as all payments in the nature of rent made to Government as proprietor, not being "revenue".

Therefore the following classes of persons in this district pay revenue :-

- (I) All proprietors of estates whether permanently or temporarily settled, including lessees under the Waste Land Rules of 1853, and such other persons to whom proprietary right has been granted in Sunderban estates and who are recorded as proprietors in the present settlement Records.
- (II) Tenure holders recorded as shikimi talukdars in a Sunderban Bajeapti estate.
- (III) Large Capitalist lease holders under the rules of 1879 recorded in this settlement as abadkari talukdars under the Rules of 1879.

The following classes pay rent :-

- (I) Malguzars in a Sunderban Bajeapti estate.
- (II) Small capitalist lease holders under the rules of 1879.
- (III) Farmers in any Government estate.

In proposing payment instalments therefore, the Assistant Settlement Officer will first decide whether the payment is "rent" or "revenue".

- (III) If it is "rent" the sole guide is section 53 of the Bengal Tenancy Act, and no difficulty should be felt in complying with the directions of that section.

Should the payment however be "revenue", the Assistant Settlement Officer must keep in mind the following points.

The last date of payment and number of instalments is governed strictly by Rule 5 of the Tauzi Manual, 1918, read with Section I, Part III of the Sale Law Manual, 1906, and must be followed.

Furthermore as pointed out in Correction Slip to Clause (IV), Rule 528, page 130, Survey and Settlement Manual, the instalment should not be fixed in the month in which the last date of payment falls, *e.g.*, if the last day of payment falls on March 28th, the instalment may and usually should be made payable in February. There is however no harm in putting forward the date of the instalment provided it is not put so far forward as to fall in the month preceding that of the previous last date of payment, *e.g.*, if agricultural conditions demand it, the instalment whose last date of payment is January 12th might be put back even as far as September but not to August for them it would be realisable as an arrear on September 28th. Subject to the above limitations, the instalments should be fixed with regard to local agricultural conditions.

In writing the preliminary and confirmation report, the ambiguous word "kist" should be avoided and the word instalment used in its place.

The table of latest dates for this district is as follows:—

Estates paying annual revenue not exceeding Rs. 10.	28th March.
Estates paying annual revenue exceeding Rs. 10 but not exceeding Rs. 50.	12th January. 28th March.
Estates paying annual revenue exceeding Rs. 50 but not exceeding Rs. 100.	28th June. 12th January. 28th March.
Estates paying an annual revenue exceeding Rs. 105.	28th June. 28th September. 12th January. 28th March.

The above rules speak for themselves and require little comment. In practice Sunderbans lessees have several times petitioned to pay their whole rent in the February instalment, as this is the main collection season in the Sunderbans. They have always been satisfied by a redistribution of the instalments which threw the main burden of payment into February, leaving small sums to be paid at the other due times. Probably it would be a good thing if the Board could modify its rules as to distribution of instalments in the case of Sunderbans estates. No estate produces any crop but winter paddy; the paddy is reaped in late December and January and it would be to the advantage of all concerned (including the Collector's tauzi staff) if the whole revenue could be paid in February.

The allowances to Sunderbans lessees have been a matter of some difficulty. Most of the difficulty has arisen in the resumed estates held under talukdari and malguzari leases. These will be referred to here; in the case of other forms of lease, the matter will be discussed when those forms of lease are described. Government is sole proprietor of practically all Sunderbans resumed estates; the talukdar is a tenure-holder with certain rights and the malguzar a farmer with certain privileges. In both cases a basic allowance of 20 per cent. of the raiyati assets has been adopted as equitable. As described above, this allowance is divisible with all subordinate tenure-holders, hence in an estate where subinfeudation is at all considerable the tenure-holders' profits have been proportionately diminished. To obviate hardship in such cases, the percentage has been raised, so as to give the tenure-holder an adequate profit.

The question of embankment allowance has also arisen in connection with the lessees' profits. In the last settlement kabulyats, a clause was sometimes

inserted binding the lessee to keep up the embankments. This clause was usually honoured in the breaches of the embankments, and there is considerable evidence of the fact that certain lessees deliberately breached the embankments with a view to destroying the crops and driving out tenants whom they wished to get rid of eventually. After a visit of the late Revenue Member, the Maharaja of Burdwan, to the Sunderban area during the scarcity of 1921, instructions were issued by Government in the form of a correction slip to the Settlement Manual (Slip No. 58 of 23rd March 1923) to the effect that in the case of the first settlement of a temporarily settled estate with the proprietor and in all cases of estates or lands let out on such terms as permit of the insertion of new conditions on renewal of the leases (*e.g.*, renewal of leases granted under the Sunderbans Rules of 1879 and 1897), the agreements or leases should clearly provide that whenever the Collector will declare that construction of new, or repairs to existing, outer embankments, cross bunds or dams, or both, are necessary for the protection of the lands of the estate or area under settlement, the lessee shall make such construction or repairs according to the dimensions and specifications approved by the Collector and shall maintain them in proper repair to the satisfaction of the Collector, who shall have power to inspect the works himself or through an officer duly authorised by him. The lessee shall have, however, a right of appeal to the superior revenue authorities against the order of the Collector under this rule.

Clauses embodying these instructions were accordingly inserted in the new kabulyats which the talukdars and malguzars were asked to sign. Several of them not unnaturally replied by asking to be granted a special embankment allowance if they bound themselves to keep up the embankment. Such allowances had been occasionally granted in the past but had been nearly always misused, for the custom of the Sunderbans is for the tenants to maintain the embankments, while the landlord helps them by interest bearing loan and supervision of the work. Unofficial but very considerable help is also admittedly given by the burkandazes of the landlord who make the life of a shirking tenant somewhat uncomfortable for him. In the past therefore the landlords so far

from using the six hundred rupees, or whatever their embankment allowance was fixed at, for the protection of the estate, had put it into their pockets, or had given it at interest to their tenants, in either case making unauthorised profit from it.

There were therefore very good reasons for attempting to do away altogether with the principle of embankment allowance in Sunderban estates, and the Collector of the district was emphatically in favour of the abolition of such allowances. We were therefore in something of a dilemma. On the one hand Government had directed the above described clauses to be inserted in all kabulyats where this could be legally done. On the other hand it was undesirable to accede to the lessees' requests for embankment allowances.

Eventually no embankment allowances were granted, but where the lessee could show by clear proof that he had expended and was still annually expending money on the protection of the estate, he was allowed an increased percentage of profit—and whatever amount over the standard 20 per cent. was allowed went entirely into his own pocket—no subordinate tenure-holder taking any share of it. In one or two cases also where it was proved that a gantidar or other subordinate tenure-holder undertook the protection of the estate, the same principle was applied in his favour. In all cases where it appeared that the tenants undertook the maintenance of embankments as was the case in the great majority of the estates, the lessees received no increase over the standard 20 per cent. but were required to sign kabulyats in which the above mentioned precautionary clauses were inserted. It was at the same time explained to them that the clauses in question did not relieve the tenants from their customary duty, and that they might rest assured that the Collector would not enforce the penal clauses unless the lessees had, by their conduct or laches, deserved the enforcement; there was also the additional safeguard that the Collector's orders enforcing these clauses were open to appeal. The strict logic of these proceedings is undoubtedly open to question; the kabulyats do undoubtedly impose a potential duty upon the lessees which might involve

them in heavy expense, but no corresponding privilege in the way of allowance to meet that expense was granted. Logic however cannot prevail where nature has made it possible for an unscrupulous landlord by one hour's work at night to open the embankment at a time of saline flood, and thereby ruin the year's crops of tenants whom he wishes to drive from the estate. It also came to light during the crop failures of 1921 that certain landlords had granted loans to their tenants at large interest for the purpose of constructing embankments, and then regardless of whether the crop was successful or not, had ruined the tenant by legal proceedings to recover the advance and the interest due. Against such landlords the precautionary clauses of the kabulyat would serve as a powerful weapon, while a moderate landlord would not be affected. Hence it was necessary to insert the clauses, but as it was and is to be hoped that the cases where their application is necessary, would be few, it was impossible to throw away a large amount of revenue by granting embankment allowances only because these clauses were inserted in the lease. Most lessees saw the point of this and almost to a man signed the kabulyats, some however under protest. In a few cases they repeated their protests to higher authorities and under the orders of the Board of Revenue, the clauses in question have been expunged from some of the leases; in a few other cases the allowance to lessees who are maintaining embankments has been increased by five per cent. under the Board's orders.

THE KABULYATS OF THE LESSEES.

155. **The kabulyats of the lessees.**—The main problems of the kabulyats taken from lessees of resumed estates in the Sunderbans have been dealt with above in connection with the embankment allowances; the reasons for giving malguzars a perpetual right of renewal have also been alluded to.

The kabulyats, themselves, for talukdars and malguzars were based upon the standard form in Appendix N of the Settlement Manual giving talukdars, as being permanent tenure-holders, rights and duties of proprietors, with necessary limitations, and treating malguzars as farmers with the special

privileges referred to above. Copies of the kabulyats as finally approved by the Board are inserted as Appendix V to this report.

156. The 99 years settlements of resumed estates.—Before leaving the subject of resumed estates, it is necessary to allude to a class of these estates which caused some confusion till their history was fully understood. Certain estates of Bagerhat sub-division among those resumed in 1837, were found to have been settled for 99 years from dates ranging round 1860. In view of the fact that leases under the Waste Land Rules of 1853 were always for a period of 99 years, and that certain leases held on less favourable terms than those of the Rules of 1853 were allowed to be commuted to those terms, it was not unreasonably supposed by attestation Officers that the leases in question were under the Rules of 1853 and our records were framed accordingly. It was however noticed that the rates of revenue in these estates did not correspond with the 2 annas per bigha which is the maximum under the Rules of 1853, hence a further enquiry was made into their history.

It has eventually been discovered that these leases are nothing but long term leases of resumed estates. The reason for granting these long terms has not transpired, but it is abundantly clear that the group of estates near Selimabad pargana were always treated with greater leniency than any others in the Sunderbans, many in fact having been settled in perpetuity between the time of their resumption and 1880. The particular leases referred to here were accordingly treated in our records as resumed estates held under talukdari lease. They are as follows :—

Tauzi No.	Name.
795	.. Kapalibanda.
816	.. Kharoikhali.
827	.. Khondkarber.
824	.. Gazalia Char.
826	.. Gazirghat.
852	.. Dhuliganti.
862	.. Narendrapur.
865	.. Nazirdia.
905	.. Mahishcharania.
908	.. Madradia.
936	.. Sataluri.
940	.. Sanyasi.
945	.. Haraganti.

All lessees of these estates have been treated as talukdars, whether this right was originally granted or refused to them. It seems inequitable to give a lease-holder who has been allowed to hold for 99 years the lower status of malguzar or farmer.

157. Waste Land Rules of 1825.—The earliest waste land grants in the Sunderbans were Henckell's taluks which have been described above. The subject was again broached early in the nineteenth century, but it was not until 1819 that a form of lease embodying definite terms seems to have been drafted and sent up for Government approval; even then the question was shelved pending the appointment of the Commissioner in the Sunderbans, though in one or two specific instances Collectors were empowered to make grants of jungle land, provided the border zamindars did not oppose it. Eventually on 24th March 1825 Government sanctioned forms of leases embodying the following terms: "One-eighth of the grant was to be brought into cultivation in three years, one-fourth in four, and half in six years under pain, in case of default, of a penalty of one rupee for each bigha of land unreclaimed (but this provision was not to be pressed). The land was to be held rent-free for seven years, thereafter one-fourth was to be exempted from assessment on account of houses, streams, uncultivable land, etc., and the remainder assessed at 2 annas in the eighth year, 4 annas in the ninth and 6 annas in the tenth; and in the eleventh year and afterwards at 12 annas less malikana of one-third which was equivalent to an ultimate net rate of 8 annas, the terms being so stated for convenience of underletting by the grantee. He was to furnish a yearly list of his raiyats, showing each man's area and rate of rent. All penalties were to be recovered as arrears of revenue. Besides that, the grantee had to procure a surety, who was required to execute a bond for the payment of all penalties and arrears of revenue until three-fourths of the grant were reclaimed. Not many leases were issued on these terms, but they remained in force until the boundary of the forest had been defined by the Hodges-Dampier line under Regulation III of 1828. Certain pattas appear however to have been granted as late as 1827 on Henckell's terms by Collectors with the sanction of the Board of Revenue. The most important from a revenue point of view in this district was the grant of Atlia in

1827. The question of the reassessment of this estate was taken up during the present operations, and has been vigorously contested by the existing holders of the estate. The proceedings at the time of writing are under consideration by the Board of Revenue.

158. Waste Land Rules of 1829.— In 1829-30 fresh rules were issued on more liberal terms with a view to attracting more applicants. The rent-free period was to be 20 years; one-fourth of the area was to be rendered fit for cultivation in five years, and in event of failure, Government had power to resume the whole. One-fourth of the area was exempted from assessment in perpetuity as an allowance for roads, houses, embankments, etc., the remainder was to pay revenue at the rate of 2 annas per bigha (of 40 yards square) in the 21st year, 4 annas in the 22nd, 6 annas in the 23rd and 8 annas in the 24th and in perpetuity: the Board were also empowered to call for accounts. The kabulyat provided for a measurement at the end of 20 years by Government either of its own motion or at the desire of the grantee. Arrangements were also made to prevent friction with the Salt Department arising from the bestowal of grants in areas where the "Khalaris" or places of salt manufacture were situated. A large number of leases under these terms were sanctioned, but none exist in this district at the present day, as all were subsequently commuted to the still more favourable terms of 1853 on the request of the holders. It will be remembered that no survey of the forest east of the Pasur had yet been made, and that there was no division into lots in this area. It was therefore impossible to make formal grants here. In certain cases however "amalnamas", i.e., informal permissions to reclaim, were granted with the idea that when reclamation was complete, the land would be surveyed and measured. This practice of granting informal amalnamas in the area where definite grants were impossible was subsequently extended by Sunderban Commissioners to areas covered by Morrieson's survey and Hodges' lots, a misuse of their authority which led to confusion in several instances.

By 1836 and 1837 the question arose whether the condition of clearance of one-fourth of the area in five years had been fulfilled in the estates leased out shortly after the promulgation of the rules of 1830. Detailed inspections were

accordingly made with the result that in some cases it was found that reclamation had proceeded as fast as had been anticipated; in other cases where the clearance condition had not been fulfilled the grant was forfeited. But after forfeiture, the ex-grantee was usually allowed to engage for the actual amount of land cleared by him on the same terms as were applied to resumed Sunderban estates. This inspection brought into prominence the fact alluded to above, that Hodges had made no survey from Gobra, to the northern corner of lot 217, but had adopted Morrieson's line as his forest boundary. Naturally therefore all cultivation made south of Morrieson's line between 1818 and 1828 fell within one of Hodges' lots. These lots were granted out wholesale as uncultivated jungle in 1830, and consequently the grantees found themselves in conflict with actual cultivators. Such cases were dealt with individually and required much attention for some time.

From 1839 onwards competition for grants which had slackened after 1830 became keen again, and in 1846 the principle of auction sale was introduced in cases where there were more than one applicant for the same land. This principle was followed until 1852 when the question of revision of the grant rules came into prominence.

159. Waste Land Rules of 1853.— In spite of the competition for grants and the fact that in many cases the clearance conditions had been duly fulfilled, it was felt that the existing grant rules had not worked satisfactorily. In 1852 the Board in a report to Government pointed out that "clearance had been less than was anticipated, many settlements had broken down, the rent-free period had been extended in nearly all cases where it had expired and the rents derived from the grants had been next to nothing". Considerable correspondence took place, and the leading grantees were consulted. They represented that the existing terms were too severe and asked for the following terms: a rent-free period of 20 years then an assessment of one anna on half the area for ten years, and thereafter the assessment of the whole area (deducting the irreclaimable portion) at 1 anna for 11 years and afterwards at 2 annas, the maximum rate, in perpetuity. Their representations were considered by the Board and Government, and ultimately their requests were partially acceded to by the issue of the Revised Grant Rules of 24th

September 1853. The salient points of these Rules were that the period of settlement was fixed at 99 years, the maximum assessment was reduced to 2 annas per bigha of 40 yards square, one-fourth of the grant was for ever exempted from assessment and the grantees were given proprietary right, but it was expressly declared that after the 99th year "the grant shall be liable to survey and resettlement and to such moderate assessment as may seem proper to the Government of the day." It was further provided that grantees under existing rules shall have the option of throwing up their existing leases and taking other leases according to these Rules terminable in 99 years from the date on which their existing leases commenced.

160. Reassessment of estates held under the Rules of 1853.—It is evident that the terms of 1853 were indeed generous. Many thousands of acres of the best paddy land in Bengal have been held for upwards of a century upon the peppercorn rent of 6 annas per acre. These leases are now beginning to expire, and it is of the utmost importance from a revenue point of view that care and attention should be devoted to their resettlement. Final orders have not yet been passed on the proposals for assessment of the first of these estates to come under resettlement, hence it is premature to attempt to estimate the financial results to Government; it is however worth pointing out that 132,850 acres of fertile paddy land in this district alone (excluding the areas in Bakarganj and the 24 Parganas) are held under these rules on a revenue of only 6 annas per acre, and at the most lenient interpretation of the words "moderate assessment" in the original leases, the results of resettlement of these estates must be of very considerable financial importance. The grantees will of course resist the assessment, as they are at present doing in the case of Atlia and the whole history of the leases is likely to come under review: in order therefore to amplify the available information about these leases which is necessarily abbreviated in a report of this nature. I have reprinted Chapters XIX, XX and XXI of Mr. Pargiter's History of the Sunderbans as an appendix to this report.

161. Commutation of existing grants to the terms of 1853.—It was unfortunate that at the time when these important rules were brought into force, the

office of Sunderban Commissioner was held by a man whose integrity and devotion to duty is said to have earned the highest praise, but who was entirely ignorant of English, and hence dependant for his comprehension of rules and instructions upon subordinates. Rai Uma Kanta Sen Bahadur did not even write his signature in English. It is not strange therefore that he fell into errors in interpreting the Grant Rules; some of them were subsequently rectified, but others have persisted till now and have proved a source of considerable loss to Government. The question of commuting existing leases to the terms of the Rules of 1853 was the source of the most serious error. The privilege of commutation was only given to holders of previous valid waste land grants and not to those persons who were lessees of land which, having been clandestinely reclaimed, was resumed by Government. Naturally therefore the latter class of lessees suffered by comparison with the favoured class of grantees, and they made strenuous efforts to attain equal privileges. This was categorically refused by Government, though certain concessions in the rate of assessment were given. Nevertheless the lessees of resumed estates, with persistence worthy of a better cause, continued to apply for commutation of their leases to the terms of the Rules of 1853. At first Uma Kanta Sen appears to have refused such applications, but subsequently he modified his views and allowed commutation in resumed estates which fell within Hodges Sunderban boundary, *e.g.*, estates in lots 216-220, such as Khalia, Haria, etc. This was entirely a mistake, for the right to commutation was not based on the geographical situation of the estate, but on the fact whether it had been reclaimed under Government permission or secretly. The secret reclaimers were quite justly refused the great privileges of 1853. On the other hand Henckell's taluks being in origin jungle clearing leases, were logically entitled to benefit of the 1853 rules, and this was allowed in certain cases, *e.g.*, Pranpur, Ramjannagar and Atlia by the Presidency Commissioner. In other cases *e.g.*, Ballabhpur, commutation was somewhat illogically refused, but this estate as well as Ramjannagar and Pranpur and other original Henckell's taluks was subsequently granted settlement in perpetuity. Atlia which was not an original Henckell's taluk (*vide supra*) remained a commuted estate. Most of Uma Kanta Sen's errors in this and other respects

were rectified during the Commissioner-ship of his successor Mr. Reily, and as far as this district is concerned, they are of little moment now.

162. Fee simple grant and redemption rules of 1863.—In reality the Rules of 1853 liberal though they were, proved ineffectual in promoting reclamation. Grantees took the jam of commutation, but generally rejected the powder of new reclamation. In Khulna district some fresh land was taken up for reclamation, but elsewhere the grantees of existing leases were almost the only persons to take advantage of the new Rules: as a result much revenue was lost to Government without the compensating advantage of opening up new land.

In 1858 two proposals of general land revenue policy which had special bearing upon Sunderbans grants were made the subject of discussion between the Government of India and the Secretary of State. These proposals were (i) the sale of waste land in perpetuity, discharged from all prospective demand on account of land revenue and (ii) permission to redeem existing land revenue by the immediate payment of one sum equal in value to the revenue redeemed. Considerable correspondence ensued, and ultimately in 1863 two sets of rules were published by the Government of Bengal embodying the decisions arrived at upon these proposals. The substance of the rules were as follows: All unassessed waste lands in which no right of proprietorship existed, were available for purchase with certain reservations. The maximum limit was 3,000 acres and the lot was to be first surveyed and demarcated, the applicant depositing the necessary costs. It was then to be advertised and sold not less than three months afterwards at a minimum upset price of Rs. 2-8 per acre on the whole area after disposal of counter claims, if any. On payment of one-tenth of the purchase money, the purchaser received a deed conveying to him the lot in full hereditary and transferable proprietary right free for ever of all demand of land revenue, but subject to taxes and local rates. He was bound to erect boundary marks; and a tow path, 20 feet in width, was to be reserved on either side of each stream. These grants were in the nature of fee simple grants and are usually alluded to under that name.

In the case of applications for redemption of existing land revenue, it was provided that all grants of waste land

already made for a term of years under existing rules in which no right of occupancy or proprietorship existed, except that of the grantee or what was derived from him, would be treated as if the land were permanently settled at the highest annual rate of rent payable under the lease, and grantees would be permitted to redeem the future land revenue of their grants or any compact part in perpetuity for an amount equal to the present value of all future stipulated annual payments calculated at 5 per cent. interest provided that the amount was not less than Rs. 2-8 per acre on the whole area of which the land revenue was redeemed: permission to redeem did not affect the obligation of the clearance conditions, and before a grantee could redeem, he would be bound to show he had complied with them, subject to relaxations in certain cases. The main defect in these rules was that a very large amount of capital was required either for purchasing an estate in fee simple, or for redeeming the existing land revenue. Mainly for this reason little advantage was taken of them: actually in Khulna district there are no estates held in fee simple, and only two of which the land revenue has been redeemed in perpetuity by the wealthy Laha estate. They have been described as "rehai" or "redeemed" estates in our records, and bear the tauzi Nos. 24BI and 25BI.

163. Large Capitalist Rules of 1879.—Some slight modifications in the Rules of 1863 were subsequently made, mainly in the direction of relieving the grantees of the expense of the preliminary survey at first declared essential in the case of fee simple grants, but the root of the matter, namely, the amount of capital outlay required, remained untouched, and, eventually, in order to resuscitate reclamation, permission was granted to issue leases again under the Rules of 1853. The subject of framing satisfactory Waste Land Rules for the Sunderbans was not however dropped, and in 1871 the subject was considered by a committee appointed to consider the subject of Waste Land Rules generally. Detailed proposals were framed and published in 1874, but as the terms were considerably less favourable than those of the 1853 Rules, except in the matter of clearance conditions, which were entirely dispensed with, there was not unnaturally no response whatever from

the public and not a single lease was issued under these rules. The matter remained untouched during the next few years which coincided with the period of the development of the reserved forest in this district, but in 1877 the Board of Revenue forwarded to Government proposals for a new set of rules based upon a draft framed by Mr. Gomess, and then Commissioner of the Sunderbans. The substantial difference between these draft rules and the Rules of 1853 lay in the direction of shorter term leases, limitation of the size of grants, and higher maximum revenue; the clearance conditions of the 1853 Rules which had been admittedly too severe were reduced to a stipulation for clearance of one-eighth of the grant in five years. The terms of these rules formed the subject of correspondence between the Board and Government for some two years, particularly with regard to leases for cultivators in accordance with the developing policy of raiyatwari settlement. Finally in 1879 two sets of rules were issued known respectively as the Large Capitalist Rules and the Small Capitalist Rules. The details of these rules are given in Mr. Ascoli's "Revenue History of the Sunderbans" and need not be transcribed *in extenso*. The following points represent the salient features of the Large Capitalist Rules. Government reserved proprietary right in the land, and gave to the grantee "a hereditary and transferable occupancy right". The question whether this conferred a permanent tenure right on the grantee or only gave him hereditary and transferable rights within the term of his lease is at present a moot point, and pending a pronouncement from the Board of Revenue, its discussion would be premature. Similarly the clause in the lease which gave the right of renewal of lease for thirty years on the expiry of the first term of forty years has been variously interpreted as giving a perpetual right of renewal and a right which is satisfied by one renewal: this question also is at present under discussion. The Rules prescribed that at the expiry of the term of 40 years the grantee was entitled to resettlement for 30 years at a rate not higher than that paid by cultivators in the neighbourhood less 30 per cent. for collection charges and profits: it was further prescribed that this rate should be calculated on three-fourths of the area,

thus leaving a quarter of the area un-assessed as was done under the Rules of 1853. During the present operations the lessees of those estates which came under resettlement pressed to have these conditions interpreted as binding Government to assess only the revenue of the lessee and to leave the tenants rents to be fixed by their landlord. It was obviously wrong to follow their wishes in this matter, for it would have deprived the tenants of the right, conferred by section 104 and section 113 of the Bengal Tenancy Act to have their rents settled for a period of fifteen years on the occasion of a revision of land revenue. The tenants' rents were accordingly settled in the ordinary way, and for the purpose of settlement of revenue, the following instructions were issued:—

"Instruction for determining the revenue in estates held under leases prescribed by the Large Capitalist Rules of 1879.

"Clause 8 of the lease under the above Rules gives a right of resettlement to the lessee for 30 years with an assessment not higher than rates which would be paid by cultivating raiyats of the neighbourhood less 30 per cent. for collection expenses and profits, the above assessment to be based on three-fourths of the area leased.

"The first thing to do is to determine the raiyati rate of neighbouring estates; this will not be easy as rates in the Sunderbans vary considerably. The Revenue Officer must use his discretion accepting as a guide the principle that he must look rather for estates where conditions are similar than to mere propinquity, for example an estate lying inland from a tidal river is no criterion as regards an immediately neighbouring estate which lies on the river bank.

"Having determined the raiyati rate, he will proceed to calculate the amount of revenue derived by assessing three-fourths of the total area at this rate and then deducting 30 per cent. All the area within the periphery of the estate (even water and unculturable fallow) will be included in the total area with which he begins his calculation. Rivers outside the record will however not be included.

"The amount determined by the above process will be the provisional revenue of the estate.

"Under section 104, Bengal Tenancy Act, we are bound to settle the rents of all classes of raiyats, and the provisions of section 113, Bengal Tenancy Act, then accrue in their favour. Accordingly the rents of the raiyats will be settled at a fair and equitable amount, and the total of the rent-roll will be compared with the provisional revenue. In normal circumstances there will be a considerable margin of profit for the lessee, and under the terms of the lease he is entitled to this. We cannot increase his revenue, nor will it be equitable to him or to neighbouring landlords to refuse to enhance unduly low raiyati rents merely because this will give a large margin of profit. Having regard to the ample allowance of one-fourth of the area and 30 per cent. profits, it is most unlikely that the provisional revenue so determined will not show a fair profit when compared with the rent-roll. Should this occur however, it will be necessary to reduce the provisional revenue to a sum which gives a clear profit of 30 per cent. to the lessee; a larger allowance than the 20 per cent. allowed to small capitalists being given in view of the initial expenditure necessary for clearing and embanking a large grant. The amount so determined will be the revenue of the estate."

During the present operations out of a total of 23 leases under the above rules, the following came under resettlement :-

Uttar Bainbari Tauzi No. 998.

Dakshin Bainbari Tauzi No. 999.

An anomalous lease was issued as late as 1911 on the lines of a Large Capitalist lease in favour of a body of young men known as the Bengal Young Men's Zamindari Co-operative Society. The details are given by Mr. Ascoli on page 119 of his History of the Sunderbans, but require qualification as regards the nature of the lease. Though it approximates to a Large Capitalist lease in its terms, it does not confer freedom of transfer; it has accordingly been differentiated in our records from the Large Capitalist leases, and has been definitely recorded as non-permanent, on the ground that without freedom of transfer it cannot satisfy the Tenancy Act definition of a permanent lease. The understatement of area in the lease referred to by Mr. Ascoli has

been remedied during the present operations by fixing a fair rent on ground of increase of area in a proceeding under section 105, Bengal Tenancy Act, instituted by the Collector.

164. Small Capitalist Rules of 1879.—The Small Capitalist Rules which were issued at the same time as the Large Capitalist Rules, were, as Mr. Ascoli points out, a reversion to an experiment in the nature of raiyatwari settlement which had not been repeated since Henckell's settlements of 1783. He might have added that the settlements under these rules have followed the example of Henckell's taluks in their quick metamorphosis from raiyati tenancies to large tenures. The following leases under these rules have been granted in this district :-

Name.	Tauzi No.	Area in acs
Bauliaghata ..	979	1,085.89
Bhagba ..	996	787.32
Kumkhali ..	995	2,625.88
Purba Hadda ..	1,024	1,573.50
Paschim Hadda ..	1,000	1,872.54
Gumari ..	997	4,159.47

All, except Bauliaghata, have come under resettlement in the present operations.

It will be seen therefore that in point of size they have no approximation to raiyati holdings or even to small tenures.

Originally two forms of lease were prescribed under these Rules, one for cultivators and one for small tenure-holders or haoladars. The only actual difference in the leases was that the haoladari form gave the right to sublet to cultivators while the cultivating lease did not. Naturally no lessee chose the restricted form; all the above leases are in the haoladari form. The details of the conditions of the leases are given in Mr. Ascoli's History of the Sunderbans; the lessee is entitled to continuous renewals of settlement at thirty-year intervals at rates paid by the under-tenure-holders in neighbouring estates. His rights are heritable, and transferable subject to notice to the Sunderbans Commissioner (now to the Collector), but he cannot create any subordinate tenure. In view of the latter restriction, the lessees were described as non-permanent tenure-holders in our records, for under the Tenancy Act permanency of tenure connotes full transferability. They demurred at first, but appear to have accepted the position after a test objection was filed and decided. Like the

lessees under the Large Capitalist Rules, they also questioned Government's right to settle the rents of the tenants on their estates; the question was decided in favour of the tenants on the same grounds as have been described in the case of the Large Capitalist Rules. The settlement of Government revenue was simpler than in the case of the Large Capitalist leases for there was no calculation of profit at 30 per cent. nor any deduction of area to be taken into account. The following rules were observed in calculating the revenue:—

“Instructions for determining the revenue in estates held under Haoladari leases prescribed by the Small Capitalist Rules of 1879.

“In these estates clause 5 of the lease gives a right of resettlement to the lessee for thirty years at a rate not exceeding the rates paid by neighbouring under-tenure-holders for similar lands.

“The first thing to do is to determine what the rate is: this will not be easy, as Sunderban rates vary considerably. The Revenue Officer must use his discretion, accepting as a guide the principle that he must look rather for estates where conditions are similar than to mere propinquity: for example an estate lying inland from a tidal river is no criterion as regards an immediately neighbouring estate which lies on the river bank.

“The rate so determined will be applied to the whole of the area within the periphery of the haola after deducting therefrom the area shown as unassessed in the analysis of area, paragraph III, of the jamabandi preliminary report, together with a further deduction amounting in total to the amount deducted from tenants' assessable area in the estate where such deduction has been actually made on account of khals, included in their holdings, but not plotted separately.

“The total sum arrived at by applying the determined rate to the area calculated as above will be the provisional revenue of the estate. Under section 104, Bengal Tenancy Act, we are bound to settle the rents of all classes of raiyats and the provisions of section 113, Bengal Tenancy Act, will then accrue in their favour. Accordingly the rents of the raiyats will be settled at a fair and equitable amount and the total of the rent-roll will be compared with the provisional revenue. If the

resulting profit amounts to 20 per cent. or over, the provisional revenue will be maintained. Even if the profit is very considerable the haoladar will still get the benefit of clause 5 of his lease, and we cannot increase his revenue, nor will it be equitable to him or to neighbouring landlords to refuse to enhance unduly low raiyati rates merely because this will give a large margin of profit. The profit accrues to the haoladar as the benefit of the favourable lease granted for jungle clearing purposes.

“So much for the case when comparison of the rent-roll with the provisional revenue shows an adequate profit for the haoladar. But if the margin of profit is less than 20 per cent. the only thing we can do is to reduce the provisional revenue to a figure which gives him a clear profit of 20 per cent., and this will accordingly be done. The sum so determined will be fixed as the revenue of the estate.”

165. Raiyatwari settlements.—The tentative efforts at Sunderban reclamation through the agency of small holders were never a success under the Small Capitalists' Rules system. Little advantage was taken of the Rules, and everyone of the few leases which were taken in this district resulted in the creation of large tenures, and were attended by the evils which often spring up where illiterate tenants are left at the mercy of the agents of absentee landlords in areas remote from executive control. These evils were no more rife in the newer Waste Land Rules estates than in any other remote area of the district whether temporarily or permanently settled, and would not of themselves have led to the necessity of a change in policy being envisaged. But other factors intervened. The system of selling the Large Capitalist leases to the highest bidder had resulted in speculative purchases and had drained the resources of the capitalists which should have been applied to the embanking and improvement of the grants. Above all, there was at the end of the nineteenth century a general tendency to exalt the advantages of raiyatwari settlement as the best possible form of management of Government estates. It is not strange therefore that from the beginning of the present century the policy of settlement with capitalists of any class was thrown overboard and extensive experiments in raiyatwari settlement inaugurated. It is a truism

to say that in areas where a substantial outlay is necessary for clearing jungle and erecting embankments, raiyatwari settlement cannot succeed unless backed by considerable Government supervision and funds. The enterprise has been taken up in Bakarganj under the colonisation scheme, and in Fraserganj in the 24-Parganas, but up till now this form of settlement has not been tried in Khulna district. Boyersingh, a resumed estate of Khulna district now the property of Government, which had been lying fallow or only tenanted by squatters for some time, was settled in 1921 in raiyatwari form, but as the area had formerly been cultivated, and as considerable restrictions were placed upon its embanking at the instance of the Irrigation Department who wished to preserve a spill area for the Gangrail-Shalta system of rivers, it cannot be regarded in any way as a typical Sunderban raiyatwari reclamation settlement.

In this district therefore the history of Sunderbans raiyatwari settlement which began about 1902 finds no place, though the rules which were framed from time to time culminating in the rules of 15th February 1919 are nominally in force here. At present in this district the claims of the reserved forest are regarded as paramount, and there is not a single acre of waste land available for lease. It is, however, a question whether some of the reserved forest might not with advantage be turned into paddy land, and it is not improbable that this question will come to the fore during the next few years. If and when this comes to pass, the question of raiyatwari *versus* capitalist lease will come up for decision once more, and it is to be anticipated that a weighty argument in favour of the latter will be found in the great expenditure on embankments entailed by the salinity of Khulna rivers; under present financial conditions Government is not likely to embark on a scheme where a large outlay of capital is to some extent dependant on the chances of wind and tide; for a cyclone or storm wave may destroy in a few hours the prospect of a year's crops in thousands of acres.

It is therefore to be anticipated that a system of settlement through capitalists will be revived; if this be the case the experience gained in the resettlement of capitalist estates as they fall due from

time to time is bound to be of the greatest value, and it is to be hoped that this experience will be used in preference to doctrinaire theories which have too often in the past governed Sunderban administration.

166. Estates settled in perpetuity.—A considerable number of Sunderban estates have been settled in perpetuity from time to time. There is no trace of fixed policy in this matter throughout Sunderban history; it rather seems that from time to time particularly in the fifties and sixties of last century the idea was current that when an estate had reached its full productive capacity and had been assessed with the maximum revenue which it then seemed capable of bearing, it should be settled in perpetuity at that revenue. In accordance with this policy, a considerable number of estates, particularly in the neighbourhood of Selimabad pargana, were settled in perpetuity in accordance with the recommendations of the Sunderbans Commissioner. All the original Henckell's taluks appear also to have been treated in this way, except Mahomedabad, Kalidaspur and the khas abad Chandkhali, whose histories have been referred to in detail above.

This policy was subsequently criticised and appears to have been short-sighted, but is, of course, beyond remedy now. Some care has however been taken in the course of the present operations to scrutinize each case of this nature and to ascertain whether any estates are held as permanently settled without due authority and whether any areas ~~not~~ originally included in the perpetual settlement have been surreptitiously included later. In order to do this, a list of the estates marked on Ellison's map of the Sunderbans was made and the history of each estate examined in detail from estate bundles and correspondence files. Three estates, viz., Betkata, Barthal, and a group of villages comprising Noai or Alukdia, Harinkhola, and Darun Mullick's-Abad appeared to be wrongly held as permanently settled estates. Preliminary jamabandi proceedings were started and the present holders of the estates were invited to file objections under section 337A of the Survey and Settlement Manual. As a result of these objections, Betkata proceedings were dropped on the discovery of a letter not previously forthcoming, which sanctioned the settlement of this estate in perpetuity.

The other two estates are undoubtedly wrongly held as permanently settled, but in the case of the Noai group, a judgment of Uma Kanta Sen releasing an adjacent area is so worded as to include within the boundaries of the release the abovementioned three villages which it is certain he never meant to release. In the circumstances, the area in question having been held as permanently settled for nearly sixty years, the proceedings were dropped. Finally in the case of Barthal, which is well known locally as the encroached khas mahal, available documents and local witnesses showed that indubitably a Government estate had existed, and had been encroached upon by the neighbouring zamindars. A patta giving the boundaries of the estate was found, but unfortunately although three boundaries out of the four were clearly identifiable in the locality, the fourth boundary—Chak Amratala—could not be identified. An old “amra” tree, which is a rarity in the Sunderbans, gave a clue to the locality, but did not serve the purpose of definitely fixing the boundary line. The matter was referred to the Director of Land Records during an inspection visit, and on his advice the case was dropped for want of certainty as to the boundaries.

167. History of the Sunderbans Commissionership.—The above conspectus of Khulna Sunderban history has dealt with Resumptions and Waste Land Settlements and the treatment of their problems during the present operations. The history of the Sunderbans Commissionership till its abolition in 1905 is a part of the Sunderbans history of this district, and has been referred to in certain places above, but in view of the fact that its latter stages are the subject of a complete chapter in Mr. Ascoli's history of the Sunderbans, it appears unnecessary to devote further space to it here. The other points which merit notice may be divided into—

- (I) Surveys.
- (II) Formation of villages.
- (III) Sources of revenue other than land revenue.

168. Revenue survey of the Sunderbans.—The surveys by Morrieson, Prinsep and Hodges have been dealt with above, and it remains to notice the

revenue survey of the Sunderbans and the topographical survey of 1906—08. The revenue survey of the Sunderbans falls into two distinct parts—

- (I) The work of Captain Smyth in 1850-51 from the western boundary of the district to the Kobadak.
- (II) The work of Captain Gastrell and Lieutenant Stewart from the Kobadak to the Baleswar during the revenue survey of Jessore, Faridpur and Bakarganj districts in 1856—63.

Captain Smyth was the officer who carried out the revenue survey of the 24-Parganas district, including the Satkhira subdivision of the present Khulna district. A distinct and apparently preliminary part of his work was the demarcation of Prinsep's boundary; as explained above very little of Prinsep's line falls within the present district of Khulna, and it is unnecessary therefore to deal with this relay in detail. The maps are however available in the Director of Surveys' office and may prove of value for reference should occasion arise. After finishing the survey of Prinsep's line Captain Smyth appears to have continued his survey from the Jamuna to the Kobadak which fell within the area covered by Hodges maps. At one time it was an important question whether Captain Smyth's survey was a revenue survey having the effect of defining villages within the meaning of section 3 (10) of the Bengal Tenancy Act; if it were not, then the tenants of the areas defined as villages by him could not be settled raiyats within the meaning of section 20 (1) of the same Act. There seemed no doubt that Captain Gastrell's survey was a part of the revenue survey, but in view of the nature of the work entrusted to Captain Smyth, viz., the relaying of Prinsep's line, the question was not free from doubt. However, as will be noticed below, the passing of the new section 20 (1A) of the Bengal Tenancy Act and the notification of all areas in the district as villages has effectually protected the tenants interests by other means.

The survey of that part of the Sunderbans which then fell within Jessore district was carried out by Captain Gastrell as part of the revenue survey of the districts of Jessore, Faridpur and

Bakarganj. He appears to have surveyed the Sunderbans, including Hodges' boundary and the areas adjacent to it, from the Kobadak to the Manikkhola, Putimari and Chilla Chandpie rivers in 1857-58; the work up to the eastern boundary of the district appears to have been completed in 1862-63 by Lieutenant Stewart. That this was a genuine revenue survey does not appear open to doubt; a written opinion given by the acting Director of Surveys in 1916 that this survey did not create mauzas or villages gave rise to some confusion, but after examination of the question by his successor, the present Director of Surveys, the previous opinion was overruled.

169. Topographical survey of the Sunderbans.—The topographical survey of the Sunderbans was carried out by Colonel (then Major) Hirst between 1905 and 1908. The object of the survey was to a great extent to prepare a map suitable for the requirements of the Forest Department, and also to survey certain cultivated areas near the forest boundary. The forest was surveyed on the scale of 2 inches to the mile and the cultivated areas on the scale of 4 inches to the mile. The maps so prepared are the only available accurate maps of the Sunderbans forest, and are of the greatest value and interest not only for the departmental purposes for which they were prepared, but for the light which they throw upon the lower courses of the rivers of the delta and on the configuration of the sea face. The reserved forest was, of course, not surveyed during the present operations. Colonel Hirst's map of the forest has been combined with the quarter inch maps appended to this report, thus giving a representation of the district as a whole.

170. Formation of villages.—The formation of villages in the Sunderban areas where villages had not been defined by the revenue survey was a matter of considerable importance for it affected the rights of many thousands of tenants. In view of the wording of the definition of a village in section 3 (10) of the Bengal Tenancy Act, the tenants of an area which had not been defined as a village in the revenue survey, or subsequently declared as a village in the manner laid down in that section, could not become settled raiyats of a village within the meaning of section 20 (1) of

the same Act, and hence were liable to lose the benefits conferred by the Act upon settled raiyats. This was initially noticed in 1910, and after considerable correspondence, three notifications were issued in 1914 and 1916 declaring certain areas in Khulna district to be villages. Unfortunately these notices were wrongly framed, for in the absence of an up-to-date survey and record of rights, the available information about the Sunderbans estates was very scanty. Actually many areas which were perfectly valid villages were renotified, and other areas which should have been notified were omitted. It was therefore obviously necessary to make up the deficiencies by fresh notifications which covered the whole area of the district as found during the present operations. With this end in view, the tenants of the areas which were not yet villages were recorded as settled raiyats, for it appeared certain that as soon as the notifications were published in the Gazette, all tenants who had held land for twelve years (as the great majority had) within the areas covered by those notifications would immediately become settled raiyats.

Unfortunately however on 4th July 1923 in the case of Jonab Ali Molla and others *versus* the Port Canning and Land Improvement Company, the High Court decided that the status of settled raiyat could not accrue in an area declared a village, until 12 years from the date of the declaration. This decision frustrated the intentions of Government which had led to the notifications of 1914 and 1916, and made the proposed correction of those notifications useless from the point of view of the tenants' interest. The matter was reported to Government, and as a result, the Bengal Tenancy (Amendment) Bill of 1925 was introduced in Council and duly passed. This Bill added a clause to section 20 (1) of the Tenancy Act to the effect that a person shall be deemed to have continuously held land for twelve years in a village notwithstanding that such village was declared to constitute a village at a date subsequent to the commencement of the said period. This Bill combined with the notifications which were then issued adopting as villages all areas surveyed as villages during the present operations made it possible to record as settled raiyats all tenants in the district who would in normal circumstances be entitled to that

right. A list of the notifications in question is given in Appendix VII (c) to this report.

FOREST AND SALT ADMINISTRATION.

171. **Early forest revenue.**—An account of the fiscal history of the Sunderbans would not be complete without some account of the history of the revenue producing departments of forestry and salt for in respect of both these sources of revenue the Sunderbans have given to Khulna district a peculiar importance.

Reference has been made above to the fact that under the fiscal arrangements of Sultan Shuja, a sarkar named Muradkhana, or "Jeradkhana" was formed to cover part of the Sunderbans, with two parganas "Akla" pasturage, and "Bunjer" forest produce. This is the first and only indication for many years of Government's intention to derive revenue from forest produce. After the assumption of the dewani by the English, this policy appears to have been lost sight of, and the paramount object of the revenue authorities was to ameliorate the waste of the Sunderbans rather than to derive any revenue from forest produce. In Grant's elaborate Historical and financial analysis of the finances of Bengal considerable attention is devoted to the revenue derivable from salt, but hardly a passing word is given to forest produce.

Tilman Henckell indeed, with his characteristic farsightedness and knowledge of detail, laid stress upon the potential value of the timber, firewood, wax and shell lime of the Sunderbans in the course of his proposals for leases of Sunderban land in 1783, but neither he nor any other Revenue Officer seems to have envisaged any right of Government to derive separate revenue from these sources. In 1817 the Board of Revenue in discussing the question of forest grants recognized as evils the exactions of private zamindars under the name of bankar and mom-mahal, and desired to take measures for their discontinuance, but at the same time refused to arrogate to Government any claim to revenue from these sources. In 1828 the proprietary right of Government in the Sunderbans was definitely asserted by legislation (Act III of 1828), and it was ordered that the claims

of zamindars to bankar, mom-mahal, etc., in the Sunderbans were to be investigated, and if they were found to exist, they were to be abrogated by payment of compensation, the produce being presumably left free to the wood-cutters and others who dared to penetrate this "pestilential haunt of smugglers and wild beasts". This state of things continued, and Government categorically refused to grant leases of "bankar" or forest produce to applicants until the question came to the fore when the policy of conserving the forests of Bengal was mooted in 1862. A memorandum on the subject was drawn up in 1863 by Dr. Brandis, and after some further enquiries, the ungranted lands in the 24-Parganas and Jessore districts were divided into blocks, and the Board of Revenue sanctioned the lease of these blocks in farm providing that the farms should be cancellable at six months' notice if the lands were required for cultivating leases. Farms for 24 blocks in the 24-Parganas and 22 blocks in Jessore were granted in 1866 producing an annual revenue of Rs. 8,358. The activity of the Port Canning Company secured the monopoly of these farms by lease or purchase, but in 1868 the Government exercised its option of cancellation in spite of the protests of the Company who had secured a net profit of nearly half a lakh of rupees in 1867-68.

172. **Constitution of the reserved and protected forests.**—Further proposals for conservation of the forest and raising revenue from the produce were put forward in 1869-70 and again in 1872-73, but the then Lieutenant-Governors Sir William Grey and Sir George Campbell opposed the idea on the ground of harassment of the people, much in the same way as the Board of Revenue a few years ago negatived proposals to obtain revenue from the fisheries of the Sunderbans. A further effort was however made by the Forest Department in 1873-74, and after a detailed survey of a large block of forest land by Mr. Home and a personal inspection of the area by Dr. Schlich, the necessity of conservation of forest produce was again represented to Government, stress being laid rather on the necessity of conserving the sundri wood rather than of deriving revenue from it. As a result of this 500 square miles in Bagerhat subdivision and 385 square miles in Khulna subdivision were declared reserved forest in 1875. The main restrictions were

confined to the felling of sundri trees with a girth of less than 3 cubits. The royalty on sundri wood was fixed at $\frac{1}{2}$ anna and on firewood at $\frac{1}{4}$ anna per maund. Further creations of reserved areas followed, including 314 square miles in Khulna subdivision and 382 square miles in Satkhira subdivision. Government were still chary of extending the reserved area further than was absolutely necessary for the conservation of sundri wood, but consented in 1879 to declare a considerable area in the 24-Parganas and Khulna districts as "protected" forest. The distinction between reserved and protected forests was that the former were not open to lease for cultivation, but the

latter could be so leased; the Forest Department could, however, collect tolls upon forest produce in the protected area. Under this system of reserved and protected forests, the revenue from the Sunderbans produce showed a net profit of over two lakh of rupees in 1880, which rose to about three and a half lakhs by 1890.

173. **Release of forest area.**—The claims of would-be cultivating lessees had been pressed in the meanwhile, and several lots in Khulna district were released in 1890 and 1891. The following schedule gives details of the most important areas released for cultivation :—

SCHEDULE Y.

Lot No.	New tauzi No.	Approximate area of the tauzi.	Rules under which held.
1	2	3	4
		Acres.	
216	998	952·73	} Large Capitalists' Rules of 1879.
	999	1256·25	
	995	2625·88	} Small Capitalists' Rules of 1879.
	996	787·32	
	1000	1872·54	
	1024	1573·50	
224	1012	3216·67	} Large Capitalists' Rules of 1879.
	1013	1523·64	
	1011	847·17	
	1014	1414·86	
	997	4159·47	Small Capitalists' Rules of 1879.
225	1016	2625·30	} Large Capitalists' Rules of 1879.
	1005	1537·52	
	1006	1523·59	
	1007	1501·98	
	1017	1810·95	
	1018	1817·92	
	1019	2510·85	
240	1008	1618·37	} Large Capitalists' Rules of 1879.
	1009	1377·58	
	1010	1477·39	

Efforts, however, to obtain cultivating leases of Lot No. 7 of Khaolia-Barisal were unsuccessful, and Government has wisely persisted in this refusal, in spite of applications which continue up to the

present time. This strip of land protects the Khaolia-Barisal peninsular from cyclone and provides an effectual spill area for the waters of the Baleswar and Bhola rivers.

174. Working plan system and forest administration.—From 1890 began the system of working plans in the Sunderbans; these are largely a matter of technical forestry which lies outside the scope of this report; it is sufficient to say that their aim has been to regularise the felling of valuable timber by judicious selection—both of the areas where felling will be permitted and of the trees which may be felled—and at the same time to produce an adequate revenue. The present system of management is twofold, viz., by the permit system which applies to all forest produce except sundri, pasur, amur keora and kankra, and by the coupe system which applies to the above mentioned valuable species. The backbone of the permit system is the establishment of a chain of revenue stations round the northern boundary of the reserved forest, situated at convenient points on the rivers most used for export. Intending purchasers bring their boats to one of the revenue stations where the boats are measured, their volumetric capacity in maunds ascertained by an approximate calculation, and a registration certificate given for each boat. A small fee is charged for the certificate which remains valid for two years and may be used for subsequent journeys to and from the forest. When the owner of a certificated boat wishes to take forest produce, he goes to a revenue station and pays the royalty fee for the kind of produce he wishes to export; the quantity of the produce, for the purposes of the fee, is calculated by the registered capacity of his boat, and he is given a permit covering this quantity. When he has secured the produce, he is required to return to the revenue station where it is examined, and if it is in order, he is given a pass allowing him to take the boat and its cargo away. There are no restrictions on felling within the limits of the permit, but boats of over 200 maunds capacity are restricted to certain areas where there is no danger of exhausting the produce. The forest is also patrolled by subordinates of the Forest Department to prevent illegalities.

The coupe system applies in particular to sundri, which is the most valuable produce of the forest; it also covers the four other species mentioned above. The eastern Sunderbans, where most of the valuable sundri grows, is divided into

40 compartments, ranging in area from 15 square miles in the best localities to 50 square miles in areas where the timber is scarcer. Fellings are made in one or more of these compartments under the working plan system referred to above. The coupe or area selected for felling (generally one compartment) is divided into a number of squared sections, and the trees which are suitable for felling in each section are selected by an officer of the Forest Department and marked for purposes of identification. A list is prepared of the trees thus marked, and they are sold, section by section, in public auction at Khulna. The purchaser is required to pay 10 per cent. of his bid as security and is then allowed to remove the produce from the forest: no royalty is now-a-days levied over and above the auction price. The felling is supervised by an officer of the Department, often a junior Imperial Service Officer. At present, practically the only purchasers of timber under this system are a ring of *mahajans* belonging to the Sarupkati police-station of Bakarganj district, who employ a special class of wood-cutters habituated to this laborious and often unhealthy work. Most of these wood-cutters come from a village named Barsakati; hence, the usual term for a Sunderban wood-cutter is a Barsakati man. The auction prices of the last three years have been as follows—

	Rs.
1922-23	... 1,28,720
1923-24	... 82,630
1924-25	... 1,71,180

A separate coupe is known as the fuel coupe. In this area cutting of small sundri poles is allowed in order to encourage the growth of the remainder. This cutting is done and the produce sold on the royalty system, selected poles having been previously marked according to requirements. The demand for this class of timber is small, and is mainly confined to Calcutta.

The total revenue and expenditure on the Sunderbans forests during the last four years is as follows:—

Year.	Revenue in Rupees.	Expendi- ture in Rupees.	Surplus in Rupees.
1921-22	.. 5,54,913	1,91,747	3,63,166
1922-23	.. 6,99,921	2,22,867	4,77,054
1923-24	.. 7,50,915	2,27,267	5,23,648
1924-25	.. 8,96,820	2,42,975	6,53,845

175. Salt administration.—Under the Muhammadan rule, salt revenue was obtained in Bengal by taking the *khalari* or places of manufacture and by transport duties; the manufacture was carried on in the strip of country called by Grant “Noondeep,” *i.e.*, the salt island or territory on the edge of the Bay of Bengal, between Midnapore and Chittagong. It appears that the *khalari*s were in the hands of a few powerful Muhammadans who derived such considerable profits from them that the leading merchant was known as the *Fakher-ul-Tejar*—“most exalted of merchants”. The income to the state coffers under Kasim Ali Khan was Rs. 2,25,000 at the rate of Rs. 25 per *khalari*, together with Rs. 70,000 realised as transport duties. After the grant of the *Dewani* to the British in 1765, Clive took over the monopoly of salt manufacture for the benefit of the East India Company, dividing the profits equally between the officers of the Company and the Government exchequer; but as the Court of Directors did not approve this arrangement, a system of farming the rights of manufacture was adopted in 1772. This system lasted till 1780, at which time the total assets to Government had increased to Rs. 18,40,000 mainly by increase of profit on the *khalari*s and by additional transport duties. In 1780 Warren Hastings, as usual ahead of his generation, substituted *khass* management by Government for the farming system. Under the new arrangements the Government agents advanced money to the salt manufacturers or “*molungis*”, who gave advances to the salt boilers or “*mahinders*”, and exacted delivery of a stipulated quantity of salt which they in turn delivered to the Company’s agent at a stipulated price. These advances were known as “*dadon molungian*”, and there seems reason to believe that they were as unpopular with the *mahinders* as the indigo *dadon* of later days. The manufacture was carried on largely in the inhospitable Sunderbans tracts where few people cared to go. When the supply of volunteer *mahinders* fell short, the *molungis* resorted to a system of impressment. The advances were thrust upon them or even thrown into their houses, and once the advance had been given, the *molungi* treated the *mahinder* as a slave. The salt officials, with an eye to revenue alone, supported the *molungis* when the *mahinders* were

recalcitrant, and winked at the oppression which was rife. The appointment of Civil Judges in connection with the salt agency came as a boon to the *mahinders*, but caused considerable friction between the salt agents and the Judges. This district was fortunate in its first Judge and Collector—Tilman Henckell—an administrator of the greatest vigour and foresight who has left an indelible mark on the revenue history of the Sunderbans. He vigorously espoused the cause of the oppressed *mahinders*, and on more than one occasion came into direct collision with Ewart, the salt agent. Eventually, Henckell cut away the ground from his adversary’s feet by offering to Government to undertake himself the duties of salt agent and to deal direct with the *mahinders*, without the intervention of the hated *molungis*. In accordance with this proposal, he was appointed agent for the area then comprised in Jessore district, while Ewart was directed to confine his operations to the Bakarganj side. After some further difficulties had been adjusted, this arrangement worked satisfactorily till the reorganisation of the Salt Department by Lord Cornwallis, which was effected by Regulation XXIX of 1793. The new system followed the previous proposals of Henckell in regard to direct dealing between the agent and the *mahinders*, and the hated name of *molungi* became a thing of the past. It is now so far buried in oblivion that recently when I came across a man named Mofiz Molungi in a Sunderbans village, neither landlords, agents nor villagers could tell me the meaning of the name *molungi*. The system of 1780 was estimated by Grant, writing in 1786, to produce a net profit of Rs. 35,00,000 to Government; the subsequent changes effected by Lord Cornwallis provided for the auction sale of salt by the agent in place of the previous system of sale at a fixed price, and resulted in a considerable accession of revenue, which of course varied annually, according to the auction prices. This system continued in force till 1837; by that time the auction sale had virtually resulted in the creation of sub-monopolies exactly as the existing auction sale of the right to cut *sundri* wood has resulted in a monopoly of a ring of Barisal *mahajans*. The Court of Directors then ordered that in future the price to be paid by purchasers of salt should be regulated by cost price of

manufacture added to a fixed rate of duty. Apart from this change, the system of Hastings and Cornwallis lasted till the second half of last century when the agencies were gradually abolished, till by 1862 the supply of salt was entirely left to private enterprise, subject to excise duty.

176. **Nimak Khalari mahals.**—

Owing to the saline character of the land in Khulna district, the manufacture of salt was an important local industry. Though it has long been discontinued, the sites of the old khalaris are still to be found throughout the Sunderbans, well marked by the heaps of broken pots which were apparently of a uniform type, cup-shaped, with a rough criss-crossed pattern. The land for these khalaris—if included in the area of the Sunderbans where Government was sole proprietor—was made over free of charge to the agencies, and the old Sunderbans correspondence reveals that elaborate precautions were taken to safeguard the Salt Department's interests when leases of waste land were given for purposes of reclamation. The name "tafalbari" is frequently used in this connection, and appears to connote the salt khalaris. Where, however, the land occupied by the salt agency was within the ambit of a private estate, Government at first paid khalari rent for it. The first of the Land Acquisition Regulations (Regulation I of 1824) specifically confers powers on Government to acquire land for the purpose of salt manufacture, and in virtue of this Regulation, Government acquired proprietary rights of khalari lands. Later, when the salt manufactory was discontinued, these

estates were held as khas mahals under the names of "nimok khalari" estates. As far as I have been able to trace, all such estates in this district have been subsequently daimi settled in perpetuity, though a few—*e.g.*, Tauzis 1062-1063—have subsequently reverted to Government by purchase at revenue sale. In one case, an estate (Tauzi 654 of the 24-Parganas district) was discovered in which the proprietors of the parent estate were offered settlement after the relinquishment of salt manufacture more than 60 years ago. They appear to have made no reply to the offer but to have reoccupied the lands. "These lands could have been resumed but for the limitation of sixty years running against Government. A curious misunderstanding arose while enquiries were being instituted in regard to this class of estates; its narration may prevent future error. Practically every officer who was asked to report on the existence of nimok khalari estates in his circle furnished a reply relating to the small invalid lakherajes released as too petty for resumption and termed "nun khalasi" estates in the Thak statement. The confusion, of course, arose between the Bengali words নুন "petty", খালসী "release", and স্থান salt খালাড়ি "khalari."

Chapter III.—Conclusion.

177.—**Boundary disputes.**—The following statement shows the number of boundary disputes under the Survey Act instituted and their results—original and appellate:—

Number of original disputes instituted.	Number of appeals.	Number of appeals.			Remanded to the Lower Court.
		Wholly allowed.	Partly allowed.	Dismissed.	
A	23	6	2	15	....
B	41	2	7	31	1
C	43	1	4	38	....
Total	107	9	13	84	1

In nine cases, parties applied to the Commissioner of the Presidency Division to set aside the appellate orders of

the Superintendent of Survey under the powers vested in him by section 58 of Act V of 1875, in five of these cases the

applications were allowed. In two cases, where the Commissioner's decision appeared to be contrary to the interpretation of the Survey Act which has been universally adopted by the Settlement Department, Government were moved to set aside the Commissioner's order. The point at issue was briefly this: under section 41 of the Survey Act, the Superintendent of Survey is bound to base his decision upon actual possession, and under section 44 he must in certain cases, in addition to his determination by actual possession, direct the relay of the revenue survey boundary in a disputed area. In certain disputes where possession was clear, the Commissioner directed that the revenue survey boundary should be followed as the boundary of the village, and that the records should be framed according to the possession of the respective parties within the ambit of the revenue survey villages: in other words, the revenue survey boundary was to be considered as sacrosanct and was not to be varied on the ground of possession. As this decision appeared to conflict with the provisions of the Survey Act as detailed above, and as it certainly conflicted with the practice universally adopted in all settlements, the question was referred to Government for decision. As a result, the Commissioner's order was set aside, and the order of the Superintendent of Survey restored. In another case where a similar principle was involved, the Commissioner's order was also set aside on the ground that he had exercised appellate functions in a case where no appeal lay to him—Government holding that he has exceeded the revisionary jurisdiction vested in him by law.

178. **Junior Officers' Training Camp.**

—The annual training camp of junior officers was held in this district in the cold weather of 1923-24; it proved pleasant and, I think, instructive to all concerned. A considerable number of the officers showed the greatest keenness and aptitude for settlement work, and several useful recruits to the Settlement Department have subsequently been chosen from their numbers. At this camp the Inspector-General of Police allowed the young Police officers to join at the outset instead of half-way through the first month, a courtesy which did much to make the camp socially enjoyable.

179. **Necessity for overhauling Sunderbans administrative machinery in Khulna.**—It is usual to conclude a

settlement report by drawing attention to such details of law or administrative practice which the experience gained during the operations has shown to be capable of amendment or improvement. In view of the fact that at the present moment the whole question of amendment of the Bengal Tenancy Act is under consideration and will presumably have received detailed attention from all available sources before this report can appear in print, it seems unnecessary to make any suggestions under this head. The most important point which should, I think, be brought into prominence as regards the administration of this district is the necessity for overhauling the Sunderbans administrative machinery. The maps and records in the record-room appear to have lain there practically untouched and unsorted since they were handed over on the abolition of the Sunderbans Commissioner's office; cases have come to light where even the doulas under double lock are wrongly named and numbered. All Sunderbans correspondence, maps and other records require to be thoroughly overhauled, classified and indexed. The only available account of the early history of the Sunderbans is Mr. Paragiter's history. This volume contains a mass of information which should be available to officers whose duty it is to deal with Sunderbans matters, but partly from the extreme scarcity of the book and partly from the fact that it contains information about the districts of the 24-Parganas and Bakarganj as well as the district of Khulna, all set out in minute detail, it is extremely difficult for an officer to become acquainted with the facts bearing upon the problems of this district without long and tedious study, and this difficulty is enhanced by the fact that the volume has no index. It is, perhaps, too much to expect that the information dealing with Khulna could be extracted and epitomised, but at any rate a new edition of the book with a complete index should be brought out. The strongest reason for taking up this question of overhauling the Sunderbans administrative machinery is that within the next few years considerable areas of old waste land grants held on an extremely low revenue will come up for resettlement, and it is of the utmost importance that the Government officers, who have to deal with this question and who will meet with considerable resistance from the lessees, should be in a position to base their work on an adequate knowledge of the

previous history of Sunderbans problems. In the map of the Government and temporary-settled estates attached to this report, the date when each estate will fall due for resettlement has been shown in small figures. This will give an adequate idea of the dates and the localities where the work will have to be taken up.

180. Possibility of revenue from fisheries and deforestation.—Two other sources of additional revenue may profitably be exploited—firstly, the fisheries of the district and, particularly, of the rivers in the reserved forest; and, secondly, the time appears ripe for the deforesting of certain areas where the valuable *sundri* trees do not flourish and where the land appears to have been raised sufficiently high to be of little value as a spill area for the rivers. Both these possibilities have been discussed in more detail in this report—both will require examination by experts before any steps can be taken.

181. Desirability of readjusting dates of payment of revenue in Sunderbans.—Finally, a small matter which needs readjustment is the question of the dates of payment of revenue in Sunderbans areas. Under existing instructions of the Board of Revenue, issued under section 3 of Act XI of 1859, and contained in Rule 5 of the Tauzi Manual of 1918, read with section 1, Part III of the Sale Law Manual of 1906, the revenue of estates, when exceeding the sum of one hundred rupees annually, must be paid in four instalments in different months of the year. Sunderbans estates produce one crop, usually a bumper crop, of winter paddy, which is reaped in January, but no other crop whatever is produced. Consequently, many lessees whose revenue has come under resettlement during the present operations have petitioned to be allowed to pay their revenue in one instalment in the month of February or March. As the rule stands, we have been unable to accede to this request, but have met their reasonable wishes as far as possible by making the greater part of the revenue payable in those months and dividing the small balance between the three other instalments in the year. The payment of these small sums will naturally cause unnecessary trouble both to the lessees and to the Collectorate staff; hence, it would be well if landlords in Sunderbans areas were allowed to make their whole payment in one

instalment at the time when they can most easily pay.

182. Financial epitome.—The end of the operations is not sufficiently near at hand to make it possible to give an account of the financial results of the settlement; as this will have to be done in the supplementary report which it is proposed to issue, it does not seem worth while to anticipate the description of this aspect of the operations by discussing in detail the cost rates of the branches which have already been concluded, more especially as this information, if required, is available in full detail in each of the annual reports. It will be sufficient to quote here the following sentence from the last annual report as an epitome of the position at present: "Taking the operations as a whole....., the total expenditure up to date has been Rs. 18,89,083 against an estimate of Rs. 21,72,395, thus showing a total saving of approximately three lakhs of rupees."

183. Gratiae reddendae.—In a review of the merits of the officers by whose assistance and collaboration these operations have been carried out, the unpleasant conditions and hardships under which the majority of them have worked deserve particular mention. The Director of Surveys on the occasion of his first visit to the tidal areas near Asasuni expressed the opinion that it was the most unpleasant kistwar area he had ever seen, and he was only repeating the opinion which Captain Gastrell, the revenue surveyor of the Sunderbans in this district, had expressed more than fifty years earlier. Due credit must, therefore, be given to those who have worked continuously among the swamps and mud of these inhospitable tracts, and the credit in this respect must be apportioned inversely to the status of the officer. The real brunt of the work was borne by the kanungos who, after some months of inspecting amins work, had to settle down to bujharat under the burning sun of March and April and very often in the rain of June and July, in areas where shade or shelter was scarce, and where, instead of riding to and fro, they had often to begin and end their day's work with a three-mile walk through mud and water.

The higher grades of officers can hardly claim the same credit, for they lived on comfortable launches or boats, and though their inspections entailed

many hours of walking through the swamps and, often enough, swimming khals, they had not to suffer the deadly monotony of the kanungo's daily routine of hardship.

Of the three Civilian charge officers who worked in this settlement, Mr. Kemm bore the brunt of the first season's difficulties, and it was largely owing to his tact, assiduity and power of organisation that the work of that season, which was more arduous than in any subsequent season, was successfully accomplished. Mr. Pinnell and Mr. Jameson in subsequent seasons gave of their best: the former's grasp of difficult problems and the latter's indefatigable energy were conspicuous. It is much to be regretted that the latter's health broke down in November, 1924, largely owing to the fact that he had never spared himself during the preceding season.

Babu Promoda Ranjan Das Gupta and Babu Shambu Charan Chatterjee, both in their capacities of Charge Officers and in the various other capacities in which they have worked, have signalled themselves as outstanding Assistant Settlement Officers. The former's promptness in disposal of work and the latter's grasp of detail are particularly noticeable, and both have a power of organisation which should carry them far.

The names of Rai Sahib Anath Bandhu Chatterjee and Babu Janoki Bhushan Sinha are well known as belonging to the select tenth legion of Sir Nicholas Beatson-Bell's veterans. I can only say that both have fully maintained in this settlement the solid reputations which they made at a time when most present Settlement Officers were still at school.

Good work has been done by the three Technical Advisers who have been attached to this settlement—Babu Akhil Chandra Ganguly, Mr. I. Newton and Babu Lal Mohan Bose. The latter has borne the brunt of the work of the Drawing Office, and has carried it through efficiently and promptly. Two Munsiffs—Babu Jitendra Prasad Sen and Babu Jogendra Nath Wadadar—have worked here; both were efficient, and the latter's energy in managing an unpleasant cadastral circle was highly praiseworthy.

Of the Sub-Deputy Collectors who have been in charge of cadastral and attestation circles, the most outstanding were Babu Promada Kumar Bose, Babu Sudhansu Ranjan De, Babu Harendra Nath Mukherjee and Babu Sasadhar Das Gupta. Sound and solid work as Attestation Charge Officer was done by Maulvi Ali Azam, since promoted to Deputy Collector, during the rather short time he was here.

It is hard to make a judicious selection among the many kanungoes who worked in this settlement. A Settlement Officer soon gets to know who is inefficient, but among the many efficient kanungoes he has less opportunity of discriminating. In giving the following list of names, I feel sure I have omitted many whose unassuming efficiency deserves notice, and with some hesitation I particularise Maulvi Gholam Akbar, Babu Rajendra Nath Chatterjee, Maulvi Mafizuddin Khan, Babu Anukul Chandra Sarkar (now promoted to Sub-Deputy Collector), Maulvi Taheruddin Ahmed, Babu Chandra Mohan Karmakar, Babu Prokash Chandra Das Gupta, Babu Sita Nath Das Gupta, Babu Anukul Chandra Das, Maulvi Abdul Gani, Babu Nagendra Kishore Biswas, Babu Upendra Nath Ganguly and Babu Parameswar Sanyal. It is fitting to mention specially the names of Maulvi Ali Hossein and Babu Nagendra Kumar Banerjee who died in harness, and whose death was in no small measure due to their devotion to duty by working beyond the limits which their failing health allowed.

I owe much of the smooth running of the office to two ministerial officers—Babu Makhan Lal Mitra, my Head Clerk, and Babu Debendra Chandra Roy Choudhury, my Peshkar, both of whose long experience and devotion to duty were of the utmost value. Many more of the ministerial staff would merit mention if space allowed; as a whole they have worked hard, honestly and ungrudgingly. Finally, it is a pleasant duty to put on record the great help in every respect which this settlement has received from three successive Directors of Land Records and Surveys—Messrs. Sachse and Jameson and Khan Bahadur Abdul Momen. From Mr. Gladding as Collector of the district I was always able to expect and obtain every courtesy and consideration which it was in his power to give.

Appendices

APPENDIX

Khulna

MAUZAWAR

Serial No.	Name of thana.	In the direct							
		Proprietors.				Rent-free tenure holders.		Service tenure holders.	
		As private lands.		Not as private lands.		No. of holdings.	Area.	No. of holdings.	Area.
		No. of holdings.	Area.	No. of holdings.	Area.				
1	2	3	4	5	6	7	8	9	10
			A. D.		A. D.		A. D.		A. D.
1	Kalaroa .. ..	....	....	290	1,008 95	2,025	1,049 83	....	....
2	Satkhira .. ..	....	....	524	2,775 71	3,528	1,752 39	1	....
3	Tala .. ..	....	....	528	1,834 99	4,691	2,417 40	13	6 01
4	Debhata .. ..	....	....	186	3,034 36	1,214	772 08	4	6 22
5	Kaliganj .. ..	....	....	687	3,372 21	2,054	1,775 71	7	8 90
6	Shyamnagar .. ..	....	....	340	4,724 21	453	340 05	....	....
7	Asasuni .. ..	....	....	330	2,111 87	1,457	1,233 15	....	....
	Total of Satkhira sub-division.	....	....	2,894	18,862 30	16,322	7,340 61	25	21 13
8	Phultala .. ..	....	....	52	244 85	814	336 56	....	....
9	Daulatpur .. ..	....	....	154	710 07	2,300	976 54	5	38
10	Terakhada .. ..	....	....	140	1,772 91	501	237 41	6	52
11	Dumuria .. ..	....	....	305	1,710 45	1,058	1,099 02	....	....
12	Baltaghata .. ..	....	....	428	945 97	490	125 97	2	1 64
13	Palkachhia .. ..	....	....	452	4,439 27	916	571 02	....	....
14	Dacope .. ..	....	....	31	174 73	10	8 07	....	....
15	Khulna .. ..	....	....	490	733 33	2,025	875 58	153	16 20
	Total of Sadar sub-division.	....	....	2,052	10,746 58	8,714	4,230 17	166	18 74
16	Mollahat .. ..	....	....	106	1,621 77	136	39 32	2	51
17	Sarankhola .. ..	....	....	11	953 51	24	18 22	....	....
18	Kachua .. ..	....	....	266	400 63	911	440 17	....	....
19	Fakirhat .. ..	....	....	588	1,298 05	3,509	1,660 21	132	15 51
20	Rampal .. ..	....	....	383	1,804 54	567	112 79	95	36 22
21	Morrellganj .. ..	....	....	186	1,560 82	917	538 38	1	28
22	Bagerhat .. ..	....	....	903	3,204 45	3,731	1,509 11	8	5 24
	Total of Bagerhat sub-division.	....	....	2,533	10,933 77	9,795	4,318 20	238	57 76
	Total of Khulna district.	....	....	7,479	40,542 65	34,831	17,888 98	429	97 63

Settlement.

STATISTICS.

occupation of—

Permanent tenure holders at fixed rents or rates.		Permanent tenure holders not at fixed rents or rates.		Temporary tenure holders.		Tenure holders on rent in kind or combined cash and kind.		Other classes.	
No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.
11	12	13	14	15	16	17	18	19	20
	A. D.		A. D.		A. D.		A. D.		A. D.
2,004	2,014 00	1,187	880 92	19	2 70	....	....	195	52 97
3,716	4,424 69	3,994	1,841 05	34	12 07	18	3 25	487	195 95
4,970	5,080 78	3,190	1,389 32	128	57 31	11	59 80	174	32 92
1,327	6,881 60	792	5,246 44	19	463 04	2	3 11	161	215 64
2,524	10,085 29	1,818	2,515 48	22	45 74	6	6 99	264	234 06
935	9,267 01	457	5,289 00	53	1,540 81	3	63 75	77	386 70
1,595	10,116 48	1,214	3,091 94	12	67 22	18	370 03	319	265 62
17,071	47,869 85	12,652	20,204 15	286	2,188 89	58	506 93	1,677	1,383 86
934	695 80	1,548	429 69	....	....	....	....	46	14 09
967	339 39	3,315	912 29	....	....	2	20	66	19 07
517	2,028 71	672	1,737 10	3	7 24	....	....	92	162 52
1,769	4,892 77	1,942	4,147 83	29	271 12	3	6 10	115	207 21
1,082	1,549 78	652	1,703 64	10	1 20	3	1 04	108	70 89
2,023	5,872 72	1,536	12,207 36	110	2,975 33	5	114 40	93	406 71
43	830 16	219	3,786 76	231	3,222 61	....	....	9	172 75
2,146	956 99	1,580	425 23	4	11 81	....	....	118	68 07
9,481	17,166 32	11,464	25,349 90	387	6,489 31	13	121 74	647	1,121 31
300	1,313 55	464	1,463 90	55	637 73	1	23	26	149 52
....	....	7,932	29,631 37	2	2 83	8	41 82	18	30 04
1,185	2,245 09	963	1,842 31	5	....	1	16 27	75	23 04
3,195	2,020 57	1,452	807 09	35	139 56	5	2 31	154	79 22
1,090	3,489 42	2,079	7,433 01	135	867 43	18	6 87	487	248 14
3,985	8,704 18	9,094	30,147 06	86	133 71	204	508 27	232	587 53
2,660	3,500 72	2,629	3,143 57	481	453 07	4	5 01	197	72 98
12,415	21,273 53	25,213	74,469 20	799	2,235 23	241	580 78	1,189	1,190 47
38,967	86,309 70	49,329	1,20,083 25	1,472	10,913 43	312	1,209 45	3,513	3,695 64

APPENDIX

Khulna

MAUZAWAR

Serial No.	Name of thana.	Ralyats. (rent-free).		Ralyats (service).		Ralyats at fixed rate of rent (cash).			
		No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.	Rent.	Incidence of rent.
1	2	21	22	23	24	25	26	27	28
			A. D.		A. D.		A. D.	Rs. A. P.	Rs. A. P.
1	Kalaroa .. ..	....	....	11	1 42	3,504	12,049 51	30,205 9 0	2 5 3
2	Satkhira	10	5 51	17	6 71	4,602	17,022 99	38,678 2 0	2 4 4
3	Tala	1	26	16	2 01	7,632	17,221 60	44,722 1 0	2 9 6
4	Debhata .. ..	....	....	3	1 73	2,838	6,686 12	19,090 6 0	2 13 8
5	Kaliganj .. ..	....	....	8	2 66	3,080	12,580 00	34,250 6 0	2 11 6
6	Shyamnagar .. ..	....	....	8	1 42	181	1,182 37	4,619 10 0	3 14 6
7	Anasuni .. ..	....	....	9	2 21	1,577	11,641 23	21,762 7 0	1 13 11
	Total of Satkhira sub- division.	11	5 77	72	18 16	23,564	79,292 82	1,93,328 0 0	2 7 0
8	Phultala .. ..	....	....	29	10 34	2,010	3,473 10	9,056 10 0	2 9 8
9	Daulatpur	3	37	9	3 67	1,079	1,303 08	3,198 11 0	2 7 3
10	Terakhada	2	43	2	26	470	1,937 95	3,307 4 0	1 11 3
11	Dumuria	2	1 31	2	6 41	3,105	12,495 36	24,534 6 0	1 15 5
12	Baltaghata	1	55	32	30 52	681	5,296 11	9,565 11 0	1 12 10
13	Palkachha	5	7 24	7	16 99	1,219	4,890 20	10,918 5 0	2 3 8
14	Dacope .. ..	....	....	....	....	261	2,685 45	8,621 0 0	3 3 4
15	Khulna .. ..	....	....	2	2 50	1,425	2,005 77	5,183 7 0	2 9 4
	Total of Sadar sub- division.	13	9 90	83	70 69	10,250	34,087 11	74,385 6 0	2 2 11
16	Mollahat	3	2 72	5	1 77	105	583 80	931 8 0	1 9 6
17	Sarankhola .. ..	....	....	....	....	....	....	....	....
18	Kachua	7	6 10	34	35 28	331	1,436 44	3,330 0 0	2 5 1
19	Fakirhat .. ..	....	....	1	1 94	1,618	5,695 64	7,835 1 0	2 1 11
20	Rampal .. ..	....	....	....	....	1,175	7,827 94	24,836 1 0	3 2 9
21	Morrellganj	3	2 17	5	4 92	40	199 06	798 8 0	4 0 2
22	Bagerhat	4	84	34	25 81	1,904	4,975 35	11,744 9 0	2 5 9
	Total of Bagerhat sub- division.	17	11 83	79	69 72	5,173	18,718 23	49,475 11 0	2 10 3
	Total of Khulna district.	41	27 50	234	158 57	38,987	132,093 16	3,17,189 10 0	2 6 5

I—contd.

Settlement—contd.

STATISTICS—contd.

Settled and occupancy raiyats (cash rent).				Non-occupancy raiyats (cash rent).				Settled and occupancy raiyats on fixed produce rents.	
No. of holdings.	Area.	Rent.	Incidence of rent.	No. of holdings.	Area.	Rent.	Incidence of rent.	No. of holdings.	Area.
29	30	31	32	33	34	35	36	37	38
	A. D.	Rs. A. P.	Rs. A. P.		A. D.	Rs. A. P.	Rs. A. P.		A. D.
23,976	37,572 43	1,32,102 10 0	3 8 8	102	76 69	325 5 0	4 3 10	295	185 07
36,866	57,201 52	1,72,052 9 0	3 0 1	67	77 01	280 3 0	3 10 2	867	739 46
31,106	49,747 11	1,45,120 5 0	2 14 8	90	162 17	500 12 0	3 1 4	758	834 20
9,197	16,731 60	53,537 15 0	3 3 2	8	10 76	35 2 0	3 4 0	125	113 79
15,657	41,249 78	1,34,129 13 0	3 4 0	150	800 32	4,531 13 0	5 10 7	597	959 05
8,004	54,287 14	3,63,323 10 0	6 11 1	1,362	16,259 53	97,977 4 0	6 0 4	228	1,077 68
12,810	58,795 32	1,30,554 3 0	2 3 6	182	1,165 02	1,650 2 0	1 6 7	564	1,181 73
1,37,816	315,584 90	11,30,821 1 0	3 9 3	1,961	18,551 50	1,05,300 9 0	5 10 9	3,434	5,090 98
10,837	11,448 29	34,080 10 0	2 15 8	....	....	....	....	4	2 00
17,597	16,082 83	46,716 14 0	2 14 5	22	14 05	84 12 0	6 0 6	42	22 84
14,250	42,590 44	1,04,434 10 0	2 7 2	202	731 82	1,921 9 0	2 10 0	4	8 22
22,572	68,770 56	1,60,612 11 0	2 5 4	91	827 55	3,653 12 0	4 6 7	112	280 74
9,161	42,495 13	92,226 3 0	2 2 8	7	26 51	63 9 0	2 6 0	13	23 97
15,515	1,02,812 07	3,23,383 2 0	3 2 3	217	2,186 71	12,320 6 0	5 10 1	79	511 89
4,006	50,468 00	2,03,461 2 0	4 0 6	38	355 22	6,316 9 0	17 12 6	56	484 37
14,690	17,063 24	51,873 7 0	3 0 7	29	19 43	69 10 0	3 9 4	20	17 36
1,08,028	3,51,739 56	10,16,788 11 0	2 14 5	606	4,161 29	24,430 3 0	5 13 11	330	1,351 99
14,641	38,553 26	75,252 3 0	1 15 2	128	417 20	765 8 0	1 13 3	26	41 15
796	2,380 34	14,848 10 0	6 3 9	2	13 08	....	....	1	1 39
10,821	30,021 84	1,03,869 2 0	3 7 3	6	6 41	23 12 0	3 11 3	9	9 43
18,054	25,759 94	65,686 14 0	2 8 9	57	130 78	596 3 0	4 8 11	8	8 00
15,594	89,377 52	3,72,958 13 0	4 2 9	65	489 05	7,328 11 0	14 15 7	26	113 35
13,472	52,942 45	2,88,054 10 0	5 7 2	60	381 70	2,447 1 0	6 6 6	15	42 08
29,322	58,457 99	1,78,944 6 0	3 1 3	250	1,292 73	5,225 6 0	4 0 8	27	20 40
1,03,300	2,97,493 34	10,99,614 10 0	3 11 1	568	2,730 95	16,386 9 0	6 0 0	112	235 80
3,49,544	9,64,817 80	32,47,224 6 0	3 5 10	3,135	25,443 74	1,46,117 5 0	5 11 10	3,876	6,078 77

APPENDIX

Khulna

MAUZAWAR

Serial No.	Name of thana.	Settled and occupancy raiyats on share of produce rent.		Non-occupancy raiyats on fixed produce rent.		Non-occupancy raiyats on share of produce rent.		Settled and occupancy raiyats on combined cash and produce rent.	
		No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.
1	2	39	40	41	42	43	44	45	46
			A. D.		A. D.		A. D.		A. D.
1	Kalaroa	391	275 41	17	9 43	53	42 21	85	302 16
2	Satkhira	1,511	1,595 14	14	11 10	15	18 43	155	287 12
3	Tala	842	1,023 78	13	23 87	7	4 80	191	688 12
4	Debhata	555	1,033 94	2	44	....	....	60	284 11
5	Kaliganj	1,407	2,414 74	104	293 01	27	95 23	331	1,449 36
6	Shyaninagar ..	838	7,736 79	176	1,545 41	4	43 67	58	470 17
7	Asasuni	899	2,054 33	11	65 76	1	30	254	1,722 45
	Total of Satkhira sub-division.	6,443	16,134 13	337	1,949 02	107	204 65	1,134	5,203 49
8	Phultala	1	1 06	....	....	....	....	....	....
9	Daulatpur	261	195 15	2	23	....	....	136	42 31
10	Torakhada	58	86 04	....	....	....	....	136	290 42
11	Dumuria	872	1,803 64	22	105 84	47	66 01	196	1,320 31
12	Baitaghata	750	1,906 82	....	....	3	24 37	343	1,969 91
13	Paikgachiha ..	658	2,048 25	26	130 07	6	41 28	353	3,375 46
14	Dacope	178	1,290 10	4	61 65	27	281 61	101	1,091 42
15	Khulna	151	121 96	1	58	20	19 88	23	26 07
	Total of Sadar sub-division.	2,929	7,453 02	55	298 37	103	433 15	1,188	8,115 90
16	Mollahat	19	25 68	....	....	8	16 80	43	79 20
17	Sarankhola	9	18 93	....	....	....	....	1	4 58
18	Kachua	356	354 06	....	....	....	66	540	2,419 87
19	Fakirhat	1,013	1,447 43	....	....	4	8 69	241	1,146 12
20	Rampal	667	1,784 36	3	6 40	14	98 43	512	3,607 29
21	Morrelganj	695	1,060 82	....	....	....	....	1,311	5,752 59
22	Bagerhat	792	812 02	3	3 40	36	57 67	210	711 17
	Total of Bagerhat sub-division.	3,551	5,503 30	6	9 80	62	182 34	2,858	13,720 91
	Total of Khulna district.	12,923	20,090 45	398	2,257 10	272	820 14	5,180	27,040 30

I—contd.

Settlement—contd.

STATISTICS—contd.

Non-occupancy riyats on combined cash and produce rent.		Other classes.		Occupants (E. G. I. E. non-agricultural holdings).			Under riyats.		
No. of holdings.	Area.	No. of holdings.	Area.	No. of holdings.	Area.	Rent.	With rights of occupancy on cash rent.		
47	48	49	50	51	52	53	No. of holdings.	Area.	Rent.
	A. D.		A. D.		A. D.	Rs. A. P.		A. D.	Rs. A. P.
1	1 07	210	12 90	422	180 08	584 5 0	30,137	15,256 97	93,129 10 0
7	5 76	146	10 76	1,338	1,277 45	2,101 3 0	35,781	18,446 60	91,693 6 0
22	157 03	67	41 92	461	339 66	246 4 0	29,554	15,990 49	85,217 9 0
....	....	91	56 60	310	140 75	368 13 0	5,439	3,462 76	18,557 12 0
6	35 57	147	52 82	570	852 61	460 9 0	10,780	8,287 59	37,576 4 0
4	131 52	36	11 96	371	265 02	269 15 0	2,044	2,330 81	12,131 12 0
1	4 80	29	8 75	468	453 87	996 12 0	7,176	9,186 46	33,549 15 0
41	335 75	726	198 80	3,940	4,409 44	5,030 13 0	1,20,920	73,591 77	3,71,856 4 0
....	....	23	65	239	142 02	142 0 0	9,919	4,450 92	22,088 15 0
....	....	78	18 39	323	104 43	427 2 0	11,760	4,767 35	25,249 1 0
9	32 40	82	31 50	230	263 49	25 13 0	10,311	9,497 38	33,707 12 0
8	60 95	51	175 74	537	392 29	443 14 0	21,140	17,706 87	70,387 1 0
1	1 96	72	92 45	118	112 09	132 4 0	4,928	7,253 55	25,160 11 0
19	275 90	....	....	378	570 93	1,310 12 0	5,620	8,359 05	34,126 15 0
2	8 24	21	64 31	140	130 45	224 14 0	2,122	7,107 29	34,231 15 0
....	....	4	1 11	1,129	405 98	6,807 11 0	9,155	4,253 91	24,307 9 0
39	379 54	331	384 15	3,594	2,121 68	9,514 6 0	74,955	63,396 32	2,69,259 15 0
....	....	3	1 63	200	248 37	33 1 0	6,152	5,062 32	17,008 1 0
....	....	....	....	109	297 40	31 3 0	155	351 77	3,340 2 0
1	3 39	25	13 63	226	178 00	218 5 0	4,173	4,519 30	23,554 14 0
6	12 37	35	25 44	570	348 89	98 13 0	8,813	5,937 82	25,014 7 0
6	29 92	4	11 15	424	617 31	287 11 0	9,227	16,396 27	1,21,714 12 0
....	....	8	4 37	543	785 57	993 11 0	3,704	7,391 44	65,655 11 0
....	....	12	10 85	1,209	658 30	3,076 1 0	21,167	15,683 88	1,11,145 4 0
13	45 68	87	67 07	3,281	3,133 84	4,738 13 0	53,391	55,342 80	3,67,433 3 0
93	790 97	1,144	650 02	10,815	9,664 96	19,284 0 0	249,266	192,330 80	10,08,549 6 0

APPENDIX

Khulna

MAUZAWAR

Serial No.	Name of thana.	Under						
		Without rights of occupancy (on cash rent).			With rights of occupancy (fixed produce rent).		Without rights of occupancy (fixed produce rent).	
		No. of holdings.	Area.	Rent.	No. of holdings.	Area.	No. of holdings.	Area.
		57	58	59	60	61	62	63
1	2	57	58	59	60	61	62	63
			A. D.	Rs. A. P.		A. D.		A. D.
1	Kalaroa	3,902	1,594 72	1,203 10 0	179	122 81	163	97 19
2	Satkhiria	2,063	1,091 06	4,768 5 0	1,214	1,054 66	290	224 34
3	Tala	2,218	1,068 33	5,575 12 0	217	183 34	45	78 26
4	Debhata	584	318 99	1,561 5 0	200	243 39	73	59 01
5	Kulliganj	907	638 78	2,523 7 0	587	604 73	177	172 09
6	Shyamnagar	73	96 67	261 14 0	72	259 33	....	....
7	Asasuni	818	777 90	2,734 6 0	264	719 18	127	238 19
	Total of Satkhira sub-division.	10,565	586 45	18,628 11 0	2,733	3,187 44	875	869 08
8	Phultala	166	57 16	212 11 0	....	....	....	....
9	Daulatpur	186	46 85	666 3 0	94	103 70	....	....
10	Terakhada	143	152 53	36 2 0	263	513 92	....	....
11	Dumuria	226	235 26	204 0 0	847	2,543 60	15	84 58
12	Baltaghata	84	78 74	20 2 0	839	2,711 18	4	13 82
13	Paikgachha	332	174 28	925 8 0	298	1,691 58	5	82 25
14	Dacope	42	85 44	92 15 0	247	1,195 27	....	....
15	Khulna	683	176 69	1,567 9 0	171	172 33	3	7 45
	Total of Sadar sub-division.	1,862	1,006 95	3,725 2 0	2,759	8,931 58	27	188 10
16	Mollahat	213	132 41	356 13 0	50	77 11	6	5 40
17	Sarankhola	4	13 71	....	7	48 62	....	....
18	Kachua	88	100 69	319 6 0	178	260 69	4	35
19	Fakirhat	175	103 79	394 15 0	727	654 89	15	34 24
20	Rampal	310	544 18	8,757 14 0	450	1,419 18	18	92 54
21	Morrellganj	161	183 08	1,287 10 0	178	1,329 10	1	6 09
22	Bagerhat	1,105	690 80	5,831 5 0	604	593 63	11	9 92
	Total of Bagerhat sub-division.	2,056	1,768 66	16,947 15 0	2,194	4,383 22	52	148 54
	Total of Khulna district.	14,483	6,862 06	39,801 12 0	7,686	16,502 24	954	1,205 72

1—concl.

Settlement—concl.

STATISTICS—concl.

Rajyats.		Acres un-occupied (including area outside the record).	Area un-occupied for public purposes.	Total area of the thana.		Remarks.
Without rights of occupancy (share of produce rent).				In acres.	In Sq. miles.	
No. of holdings.	Area.					
64	65	66	67	68	69	
	A. D.	A. D.	A. D.	A. D.		
202	135 48	395 37	100 82	57,186 94	89 35	
164	144 78	374 29	347 39	90,206 76	140 94	
35	29 79	1,932 81	218 90	83,333 77	130 21	
63	75 18	1,458 09	32 03	43,237 54	67 55	
47	56 40	2,255 02	102 18	81,387 73	127 17	
1	2 41	7,717 77	56 26	1,12,460 24	175 72	
90	283 55	0,466 28	10 08	1,01,071 44	157 92	
602	727 59	20,599 63	867 66	5,68,884 42	888 86	
8	4 49	168 00	186 80	17,153 85 1,194 52	26 80 1 87	Petty settlement.
43	25 16	926 85	302 93	18,348 37	28 67	
37	76 01	963 15	....	21,981 07	34 34	
18	68 50	3,972 26	43 43	52,891 53	82 64	
				1,02,665 90 11,055 24	160 42 17 27	Petty settlement.
				1,13,721 14	177 69	
20	68 89	5,445 01	2 76	61,828 29	96 61	
10	27 50	12,743 51	117 96	1,56,315 45	244 24	
10	54 30	5,488 92	1 85	70,606 67	110 32	
37	49 12	1,555 71	527 77	24,854 57	38 84	
183	373 97	31,263 41	1,183 50	508,297 33 12,249 76	794 21 19 14	Petty settlement.
				520,547 09	813 35	
2	2 97	799 34	8 37	46,006 00 15,108 28	71 88 23 60	Petty settlement.
....	....	4,104 16	8 58	61,114 28	95 48	
2	6 09	2,042 96	3 28	37,506 25	58 60	
4	11 18	444 10	266 66	41,498 86	64 84	
26	51 86	6,611 83	4 11	39,318 52	61 43	
6	25 36	5,079 38	2 13	124,577 08	194 65	
75	75 44	1,027 55	278 80	108,438 36	169 43	
				80,317 93	125 49	
115	172 90	20,109 32	571 93	477,663 00 15,108 28	746 32 23 60	Petty settlement.
				492,771 28	769 92	
900	1,274 46	71,972 36	2,623 09	1,554,844 75 27,358 04	2,429 39 42 74	Petty settlement.
				1,582,202 79	2,472 13	

APPENDIX

Khulna

MILAN

1	Name of thana. 1(a)	Area sown.							Culturable	
		Bhadol.	Aghani.	Rabi.	Others, e.g., Bhangra, tea pan, plan- tain, gua- vae, etc.	Total.	Dofasli.	Net.	Current fallow.	Old fallow.
		2	3	4	5	6	7	8	9	10
		A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.
1	Kalaroa ..	20,077 17	16,844 94	6,264 92	3,250 42	52,446 45	6,008 57	46,437 88	1,202 43	565 15
2	Satkhira ..	15,395 99	48,392 11	2,135 20	4,219 07	70,142 37	1,393 55	68,748 82	5,731 85	2,375 76
3	Tala ..	18,605 56	21,950 03	11,928 17	8,561 78	61,045 54	10,057 58	50,987 96	15,268 26	1,815 40
4	Debhata ..	1,461 53	16,833 49	625 25	953 07	19,923 34	274 98	19,648 36	3,675 90	5,170 39
5	Kaliganj ..	3,263 29	41,733 54	4,015 62	2,295 45	51,307 90	570 34	50,737 56	7,402 73	7,292 15
6	Shyamnagar ..	303 88	75,391 44	733 60	542 27	76,971 19	17 55	76,953 64	7,608 57	5,957 69
7	Asasuni ..	1,498 62	34,153 28	1,869 45	1,393 20	38,914 55	76 23	38,838 32	37,750 94	4,397 79
	Total of Satkhira Subdivision.	66,006 04	255,348 83	27,572 21	21,224 26	370,751 34	18,398 80	352,352 54	78,880 68	27,574 31
8	Phultala ..	837 28	10,076 91	377 61	1,955 38	13,247 18	215 01	13,032 17	373 56	707 95
9	Daulatpur ..	712 32	11,077 01	911 34	2,038 96	15,339 63	478 19	14,861 44	263 56	1,390 54
10	Terakhat ..	1,964 08	31,361 20	17,909 0	561 72	51,796 00	8,072 66	43,723 34	1,015 37	2,613 66
11	Dumuria ..	3,781 80	66,789 09	4,741 70	3,152 43	78,465 02	1,177 53	77,287 49	3,116 59	5,308 99
12	Baitaghata ..	311 52	45,518 95	1,226 31	1,199 85	48,256 63	85 85	48,170 78	836 14	1,309 41
13	Paikgachha ..	1,913 84	110,068 39	3,963 71	2,189 01	118,134 95	911 34	117,223 61	3,705 84	5,128 95
14	Dacope ..	11 77	57,923 09	360 65	135 04	58,430 55	2 31	58,428 24	194 19	1,101 75
15	Khulna ..	681 36	12,457 65	1,706 17	2,237 79	17,082 97	966 21	16,116 76	508 15	1,657 00
	Total for Sadar Subdivision.	10,213 97	345,972 29	31,195 49	13,470 18	400,752 93	11,909 10	388,843 83	10,013 40	19,227 25
16	Mollahat ..	4,613 76	19,533 91	16,327 45	1,614 93	42,089 95	5,411 84	36,678 11	1,005 47	2,948 64
17	Sarankhola ..	624 96	27,856 82	166 34	686 19	29,334 31	0 83	29,333 48	401 12	721 71
18	Kachua ..	167 07	26,722 00	3,444 45	3,893 28	34,226 80	1,598 18	32,628 62	510 46	1,412 16
19	Fakirhat ..	1,529 90	17,907 13	4,540 01	3,622 88	27,639 92	319 21	27,320 71	935 86	3,507 58
20	Rampal ..	865 31	96,363 05	2,876 75	2,233 53	102,338 64	26 61	102,312 03	1,478 96	4,240 72
21	Morrellganj ..	1,231 37	81,062 45	812 62	5,878 29	88,984 73	69 83	88,914 90	2,638 75	3,490 20
22	Bagerhat ..	1,340 25	35,172 04	14,924 79	6,341 65	57,778 73	1,114 80	56,663 84	2,226 72	8,118 97
	Total of Bagerhat Subdivision.	10,372 62	304,617 40	43,092 31	24,310 75	382,393 03	8,541 39	373,851 69	9,197 34	24,439 98
	Total of Khulna District.	87,192 63	905,838 52	101,861 01	59,005 19	1,153,897 35	33,849 29	1,115,048 06	98,091 42	71,241 56

II.

Settlement.

KHASRA.

area other than current fallow.				Area not available for cultivation.				Total uncultivated : cols. 9, 14 and 18.	Total area : cols. 8 and 19.
Groves not fruit-bearing and bamboos.	Culturable Jungle.	Other kinds.	Total.	House sites.	Water.	Other kinds.	Total.		
11	12	13	14	15	16	17	18	19	20
A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.
2,000 64	11 43	354 99	2,941 21	3,428 74	1,178 58	1,938 10	6,545 42	10,749 06	57,186 94
2,476 51	44 09	299 12	5,195 48	4,428 90	3,480 20	2,621 42	10,530 61	21,457 94	90,206 76
1,993 24	399 00	166 74	4,374 38	4,058 05	3,768 52	4,876 60	12,703 17	32,345 81	83,333 77
2,713 96	2,931 12	54 61	10,870 08	1,620 39	2,417 43	4,996 38	9,043 20	23,589 18	43,237 54
657 23	50 21	126 56	8,126 15	3,810 89	3,171 21	8,049 19	15,031 29	30,650 17	81,387 73
107 32	764 52	20 57	6,850 10	3,085 15	8,572 76	9,300 02	20,957 93	35,506 60	112,460 24
452 42	428 97	20 16	5,308 34	3,409 94	12,716 85	2,987 05	19,173 84	62,233 12	101,071 44
10,410 32	4,029 34	1,051 75	43,665 74	23,911 15	35,305 55	34,768 76	93,985 46	216,531 88	508,884 42
349 70	8 47	491 44	1,557 56	1,061 58	520 92	608 06	2,190 56	4,121 68	17,153 85
628 06	35 52	883 94	2,947 66	1,651 40	1,425 85	831 16	3,908 41	7,119 63	21,981 07
67 31	4 33	210 71	2,896 01	1,386 39	3,485 56	384 86	5,256 81	9,168 19	52,891 53
811 22	132 93	782 38	7,035 52	3,317 50	9,600 45	2,308 35	15,226 30	25,378 41	102,665 90
135 44	766 59	86 20	2,297 64	1,891 72	8,010 09	621 92	10,523 73	13,657 51	61,828 29
584 15	83 93	137 96	5,934 99	4,404 55	22,977 31	2,069 15	29,451 01	39,091 84	156,315 45
36 67	1 52	23 25	1,163 19	1,804 34	8,938 04	78 67	10,821 05	12,178 43	70,606 67
547 16	48 66	869 37	3,122 19	1,859 53	2,335 38	912 56	5,107 47	8,737 81	24,854 57
3,160 31	1,081 95	3,485 25	26,954 76	17,377 01	57,293 60	7,814 73	82,485 34	119,453 50	508,297 33
569 79	685 13	114 28	4,317 84	1,232 49	2,220 51	551 58	4,004 58	9,327 89	46,006 00
17 85	109 86	150 93	1000 08	1,545 22	5,155 40	70 95	6,771 57	8,172 77	37,506 25
155 96	190 80	222 10	1,981 02	2,076 18	3,346 29	956 29	6,378 76	8,870 24	41,498 80
1,681 34	65 97	148 73	5,403 62	2,376 10	1,829 62	1,452 61	5,658 33	11,907 81	39,318 52
289 52	59 40	172 86	4,762 50	3,451 77	11,323 93	1,247 89	16,023 59	22,265 05	124,577 08
30 55	163 32	196 59	3,880 66	4,148 44	8,386 10	469 51	13,004 05	19,523 46	108,438 36
1,480 49	225 58	308 40	10,193 44	3,635 95	5,062 05	2,535 93	11,233 93	23,654 09	80,317 93
4,225 23	1,500 06	1,373 89	31,539 16	18,466 15	37,323 90	7,284 76	63,074 81	103,811 31	477,663 00
17,795 86	7,211 35	5,910 89	102,159 66	59,754 31	129,923 05	49,868 25	239,545 61	439,796 69	15,547,44 75

APPENDIX

Khulna

CROP

1	Name of thana. c	Cereals and pulses.										
		Rice.			Wheat.	Barley.	Cum- ba or bajra.	Ragi or marua.	Maize.	Jowar.	Gram (pulse).	Other food grains, including pulses.
		Aus.	Aman.	Boro.								
	1(a)	2	3	4	5	6	7	8	9	9(a)	10	11
		A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.
1	Kalaroa	25,722 91	16,844 04	..	1 59	26 17	..	..	0 16	..	4 09	5,112 64
2	Satkhira	14,069 78	48,335 82	0 86	1 50	2 90	..	..	..	..	..	998 57
3	Tala	16,780 42	21,927 17	..	09	20 62	..	..	0 11	..	..	8,078 30
4	Debhata	1,453 37	16,877 47	..	..	..	..	..	..	..	..	183 73
5	Kaliganj	3,193 12	41,083 47	..	..	..	..	0 67	..	..	..	1,405 56
6	Shyamnagar	155 46	75,391 44	..	..	..	..	..	..	..	..	61 46
7	Asasuni	1,442 55	31,128 00	..	..	..	..	..	..	..	..	329 60
	Total of Satkhira subdivi- sion	62,817 61	2,55,188 31	0 86	3 18	49 69	..	0 67	0 27	..	4 09	16,169 86
8	Phultala	823 22	10,077 41	0 09	..	0 28	..	..	..	..	0 21	164 75
9	Terakhada	1,450 95	31,346 59	13,365 83	1 34	1 66	..	..	..	..	..	412 89
10	Dumuria	3,539 52	66,789 09	12 83	..	0 66	..	..	..	..	..	1,636 38
11	Baitaghata	294 82	45,513 84	40 45	0 27	..	..	..	..	..	0 32	405 64
12	Paikgachha	1,567 11	1,10,062 82	..	..	..	..	..	..	..	0 33	1,000 51
13	Dacope	7 67	57,923 00	..	..	..	..	..	..	..	..	1 90
14	Khulna	663 89	12,454 23	177 22	..	..	..	..	..	..	1 14	484 34
15	Daulatpur	607 41	11,677 01	1 37	..	..	..	..	..	..	..	204 19
	Total of Sadar subdivi- sion	9,044 59	3,45,843 99	13,597 79	1 61	2 60	..	..	..	..	2 00	4,310 60
16	Mollahat	3,359 58	19,356 62	11,437 24	..	2 10	..	..	..	..	..	366 71
17	Sarankhola	624 96	27,856 82	..	..	..	..	..	..	..	..	2 22
18	Kachua	147 17	26,600 83	1,800 41	..	..	..	..	..	..	..	1,014 52
19	Fakirhat	1,519 07	17,886 59	1,516 89	0 08	0 09	..	..	..	..	1 90	1,156 93
20	Rampal	311 18	96,363 05	0 44	..	..	..	..	..	..	..	729 05
21	Morrellganj	1,221 18	81,050 21	..	..	..	..	..	..	..	..	128 33
22	Bagerhat	1,269 75	35,135 43	12,136 37	..	..	..	..	..	..	3 54	1,181 61
	Total of Bagerhat subdivi- sion	8,452 89	3,04,309 55	26,891 35	0 08	2 19	..	..	..	..	5 44	4,579 37
	Total of Khulna district ..	80,315 09	9,05,341 85	40,490 00	4 87	54 48	..	0 67	0 27	..	11 53	25,059 83

III.

Settlement.

STATEMENT.

Oil-seeds.							Condiments and spices.	Sugar.		Fibres.			
Lin-seed.	Sesamum (til or jijn).	Rape and Mustard.	Ground nut.	Cocoa-nut.	Castor.	Others.		Sugar-cane.	Others.	Cotton.	Hemp (Sunn).	Jute.	Others.
12	13	14	14(a)	14(b)	14(c)	15	16	17	18	19	20	21	22
A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.
1 03	0 47	535 29	..	..	..	..	424 13	43 07	947 81	..	..	345 70	..
0 95	14 35	640 65	..	..	..	0 22	107 73	56 29	1,338 12	..	..	1,325 35	..
5 68	7 62	2,464 77	..	..	..	..	3,747 86	22 76	91 44	..	..	1,825 14	..
0 59	13 36	353 24	..	..	..	0 60	9 84	8 18	20 13	..	0 17	7 78	..
0 41	17 78	1,885 96	..	..	..	4 64	105 33	62 88	3 84	..	..	68 93	..
..	0 48	334 93	..	..	..	..	2 75	3 54	4 39	..	..	148 42	..
0 23	1 68	1,030 96	..	..	..	..	13 86	10 42	554 74	..	..	84 93	..
8 89	55 74	7,245 80	..	..	..	5 46	4,401 50	207 14	2,960 47	..	0 17	3,806 25	..
..	1 82	167 66	..	..	..	..	17 86	..	582 67	..	..	13 97	..
1 31	2,576 27	391 61	..	..	..	..	750 06	14 61	10 53	..	..	513 13	..
1 36	14 03	1,329 71	..	..	..	1 13	1,040 90	0 66	822 16	..	..	229 45	..
..	6 46	410 17	..	..	..	..	9 74	4 84	7 96	..	..	16 70	..
..	0 16	1,506 75	..	..	..	..	173 40	5 58	216 98	0 10	..	346 73	..
..	..	12 74	..	..	..	..	1 18	0 09	5 20	..	..	4 10	..
..	413 05	339 78	..	..	..	0 67	37 75	3 42	4 69	..	..	17 47	..
0 55	296 68	108 01	..	..	..	1 50	77 87	10 96	41 51	..	..	17 97	..
3 22	3,308 47	4,365 43	..	..	..	3 30	2,108 76	40 16	1,693 50	0 10	..	1,150 52	..
0 15	3,150 43	225 95	..	..	..	0 54	828 07	57 41	54 86	..	..	1,391 81	0 35
..	..	..	..	..	..	0 36	1 88	0 36	106 16	..	..	..	..
..	44 48	135 86	..	..	..	..	145 47	60 74	0 37	..	..	19 89	..
0 77	3 22	807 83	..	..	..	..	90 54	20 54	..	..	..	10 83	..
0 06	0 52	1,721 30	..	..	..	0 09	41 21	19 19	390 92	..	..	12 03	..
..	0 06	37 21	..	..	..	1 23	61 43	12 24	436 52	..	..	10 19	..
0 52	116 60	790 54	..	..	..	..	211 75	36 71	18 56	0 25	..	70 46	..
1 50	3,315 31	3,718 75	..	..	..	2 21	1,380 35	207 10	1,007 39	0 25	..	1,515 21	0 35
13 61	6,079 52	15,320 98	..	..	..	10 97	7,980 61	454 49	5,661 36	0 35	0 17	6,490 98	0 35

APPENDIX

Khulna

CROP

Serial No.	Name of thana.	Dyes.		Drugs and narcotics.					
		Indigo.	Others.	Tea.	Tobacco.	Cinchona.	Indian hemp (ganja).	Betel.	Others.
	1(a)	23	24	25	26	27	28	29	30
		A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.
1	Kalaroa .. ..	....	....	....	140 47	....	....	44 36	48 56
2	Satkhira .. ..	....	....	....	127 91	....	....	31 34	4 64
3	Tala .. ..	....	....	....	325 11	....	....	173 59	14 24
4	Debhata .. ..	....	....	....	36 30	....	....	....	3 64
5	Kallganj .. ..	....	....	....	545 34	....	....	6 84	4 56
6	Shyamnagar .. ..	....	....	....	311 90	....	....	....	....
7	Asasuni .. ..	....	0 25	....	396 42	....	....	42 85	0 62
	Total of Satkhira subdivision	....	0 25	....	1,883 45	....	....	208 98	76 26
8	Phultala .. ..	....	....	....	18 08	....	....	138 30	554 82
9	Terakhada .. ..	....	....	....	237 33	....	....	2 71	0 58
10	Dumuria .. ..	....	....	....	609 32	....	....	8 56	904 11
11	Baitaghata .. ..	....	....	....	314 01	....	....	....	29 79
12	Palkgachha .. ..	....	....	....	1,374 22	....	....	71 37	....
13	Dacope .. ..	....	....	....	333 32	....	....	....	....
14	Khulna .. ..	....	....	....	47 41	....	....	88 45	13 79
15	Daulatpur .. ..	....	....	....	61 76	....	....	409 50	5 07
	Total of Sadar subdivision ..	....	....	....	2,995 45	....	....	718 89	1,508 16
16	Mollahat .. ..	....	....	....	438 95	....	....	0 23	2 94
17	Sarankhola .. ..	....	....	....	151 86	....	....	....	70 90
18	Kachua .. ..	....	....	....	255 87	....	....	41 74	965 48
19	Fakirhat .. ..	....	....	....	44 10	....	....	64 29	....
20	Rampal .. ..	....	....	....	289 57	....	....	....	1,752 06
21	Morrellganj .. ..	....	....	....	568 04	....	....	8 74	652 41
22	Bagerhat .. ..	....	....	....	215 30	....	....	202 31	316 23
	Total of Bagerhat subdivision	....	....	....	1,963 69	....	....	317 31	3,760 02
	Total of Khulna district ..	....	0 25	....	6,842 59	....	....	1,335 18	5,344 44

III—concl'd.

Settlement—concl'd.

STATEMENT—concl'd.

Fodder crops (including joar and khar.)	Fruits and vegetables (including root crops.)				Miscellaneous crops.		Total.	Area sown more than once.	Net area sown.
	Fruits.	Potato.	Onion.	Others.	Food.	Non-food.			
31	32	33	33(a)	34	35	36	37	38	39
A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.	A. D.
0 18	509 12	76 54	66 57	1,361 08	128 97	....	52,446 45	6,008 57	46,437 88
7 33	1,252 84	138 18	66 28	1,422 85	61 37	46 54	70,142 37	1,393 55	68,748 82
....	1,143 93	65 78	90 70	899 59	3,370 62	....	16,045 54	10,057 58	50,987 96
....	508 83	7 46	....	241 73	90 66	106 16	19,923 34	274 98	19,648 36
0 42	1,573 49	32 25	14 08	495 32	63 24	139 77	51,307 90	570 34	50,737 56
....	304 40	2 64	4 05	235 11	10 13	....	76,971 19	17 55	76,953 64
....	325 20	8 92	3 06	455 70	63 28	21 28	38,914 55	76 23	38,838 32
7 93	5,677 90	331 87	244 74	5,111 08	3,788 27	313 75	3,70,751 34	18,398 80	3,52,352 54
....	633 37	6 59	1 46	44 02	....	....	13,247 18	215 01	13,032 17
164 36	16 33	3 84	....	231 08	302 99	....	51,796 00	8,072 66	43,723 34
....	468 57	11 32	53 56	991 62	0 08	....	78,465 02	1,177 53	77,287 49
28 31	28 54	3 25	2 21	1,128 51	....	....	48,256 63	85 85	48,170 78
....	1,612 23	18 74	31 17	144 59	1 80	0 36	1,18,134 05	911 34	1,17,223 61
....	2 00	0 14	1 65	9 94	127 62	....	58,430 55	2 31	58,428 24
187 80	94 24	4 45	1 92	54 96	1,992 06	0 24	17,082 97	966 21	16,116 76
30 62	18 46	2 00	8 46	101 78	1,476 28	0 67	15,339 63	478 19	14,861 44
411 09	2,873 74	50 33	100 43	2,707 10	3,900 83	1 27	4,00,752 93	11,909 10	3,88,843 83
1 14	398 96	10 60	8 16	951 30	1 78	44 07	42,089 95	5,411 84	36,678 11
5 13	331 45	0 75	....	3 76	177 70	....	29,334 31	0 83	29,333 48
43 74	11 90	0 95	....	1,700 47	686 76	430 15	34,226 80	1,598 18	32,628 62
956 42	1,247 93	59 86	3 18	2,242 80	....	....	27,639 92	319 21	27,320 71
70 66	416 11	10 42	4 44	176 07	10 63	19 59	1,02,338 64	26 61	1,02,312 03
4 14	1,185 31	3 03	4 63	3,446 41	97 19	56 23	88,984 73	59 83	88,914 90
259 99	544 47	41 75	5 64	5,220 67	0 28	....	57,778 73	1,114 89	56,663 84
1,341 22	4,136 13	127 36	26 05	13,801 54	974 34	550 04	3,82,393 08	8,541 39	3,73,851 69
1,760 24	12,677 77	509 56	371 22	21,620 62	8,663 44	865 06	11,53,897 35	38,849 29	11,15,048 06

APPENDIX

Khulna

AGRICULTURAL STOCK

Serial No.	Name of thana.	Bulls.	Bulls reared or bred in Government Farm.	Bullocks.	Cows.	Calves.	Male buffaloes.	Female buffaloes.	Buffaloe calves.	Sheep.
1	1(a)	2	3	4	5	6	7	8	9	10
1	Kalaroa	1,857	1	14,838	12,210	11,009	36	..	..	55
2	Satkhira	2,283	21	17,086	15,731	14,291	37	..	..	267
3	Tala	1,803	..	17,202	16,311	14,448	42	..	6	16
4	Debhata	715	3	5,350	4,794	4,619	72	203	174	3
5	Kaliganj	1,041	29	16,182	12,719	11,699	97	380	143	6
6	Shyamnagar ..	2,397	17	17,898	16,545	13,650	263	482	190	96
7	Asasuni	1,915	90	14,170	15,820	13,606	23	78	43	26
	Total of Satkhira Sub-division.	12,011	161	103,326	94,130	83,362	570	1,143	557	469
8	Phultala	4	..	1,392	1,182	932	7	..	..	15
9	Daulatpur ..	186	5	6,043	5,417	4,969	11	1	..	4
10	Terakhada ..	452	..	7,258	7,549	7,818	33	1	..	48
11	Dumuria	3,185	10	17,787	19,353	15,861	191	273	97	8
12	Baitaghata ..	1,119	26	14,587	10,577	7,607	284	218	36	7
13	Palkgachha ..	3,345	1	23,568	25,391	21,940	131	114	49	33
14	Dacope	589	39	14,497	10,463	7,990	76	116	35	20
15	Khulna	386	8	5,913	6,308	5,507	62	21	5	41
	Total of Sader Subdivision.	9,266	89	91,045	86,240	72,624	795	744	222	176
16	Mollahat	783	1	7,012	6,614	6,397	15	..	..	54
17	Sarankhola ..	222	4	5,634	5,843	4,996	83	189	56	1
18	Kachua	722	24	9,855	8,793	6,432	202	121	33	15
19	Fakirhat	465	18	8,551	7,695	6,492	46	75	12	..
20	Rampal	1,475	28	23,565	19,117	15,034	1,063	3,154	529	26
21	Morrellganj ..	675	32	21,895	21,376	15,125	1,115	1,946	479	25
22	Bagerhat	1,219	38	15,260	14,370	12,467	483	664	85	18
	Total of Bagerhat Sub-division.	5,561	145	91,772	83,808	66,043	3,910	6,149	1,194	139
	Total of Khulna District	26,838	395	286,143	264,178	222,029	5,275	8,036	1,973	784

IV.

Settlement.

STATEMENT.

Goats.	Horses.	Mares.	Young stock colts and fillies.	Mules.	Donkeys.	Elephants.	Camels.	Pigs.	Ploughs.	Carts.	Boats.
11	12(a)	12(b)	12(c)	13	14	15	16	17	18	19	20
18,206	67	22	2	..	..	..	..	255	7,448	4,168	119
12,810	65	17	2	..	..	..	..	828	9,402	2,960	584
12,856	32	12	2	..	..	..	..	534	2,626	1,796	631
3,012	2	3	..	..	3	..	..	225	2,205	183	1,102
5,586	80	98	16	..	..	..	..	56	7,160	952	352
7,751	315	60	12	1	..	..	..	39	10,273	686	1,214
6,465	79	46	9	..	..	..	..	19	7,660	172	1,765
66,776	640	258	43	1	3	..	..	1,956	46,774	10,917	5,767
391	4	..	..	..	..	..	..	..	612	46	52
561	6	5	1	..	..	..	..	715	2,918	223	702
817	17	12	..	..	..	..	..	5	3,090	71	2,884
8,733	57	26	..	..	..	..	..	506	12,135	543	3,257
1,788	9	4	..	..	..	..	..	..	9,082	23	2,594
9,923	76	37	1	..	..	..	..	14	14,127	378	4,081
2,497	24	4	..	..	..	..	..	23	8,765	13	2,459
1,096	21	16	1	..	..	..	..	2	2,142	180	874
25,806	214	104	3	..	..	..	..	1,265	52,871	1,477	16,903
1,671	10	6	..	..	..	..	..	7	3,074	67	1,722
1,441	..	..	..	..	..	..	..	4	3,252	2	625
1,013	11	1	..	..	..	..	..	5	5,141	59	3,168
1,044	5	7	1	..	..	..	..	6	3,676	75	863
6,533	45	12	..	..	5	..	..	159	13,708	64	2,810
6,357	73	8	5	..	..	..	..	155	12,944	35	2,800
2,089	15	25	..	..	..	..	..	12	6,968	167	2,725
20,148	159	59	6	..	5	..	..	348	48,763	469	14,713
112,730	1,013	421	52	1	8	..	..	3,569	148,408	12,863	37,383

APPENDIX V (a).

[Form of Agreement to be used in Temporary Settlement of a Government Estate with a Talukdar.]

IN WHOSE FAVOUR EXECUTED—

SECRETARY OF STATE FOR INDIA.

Name, parentage and residence of the person executing the kabulyat.

I take settlement of Government estate in district Khulna bearing Tauzi No. for years from 1st April to 31st March at an annual net revenue of Rs. subject to the following conditions.

I. Subject to the terms of this settlement, I shall be at liberty to sell, alienate or transfer my right as tenure-holder in the said estate, but I shall remain liable for the revenue assessed thereon, until intimation of the transfer has been given to the Collector and the transfer has been recorded in the Collector's registers, *vide* Board's letter No. 257 L. R., dated the 15th January, 1926.

II. I shall respect the rights recorded in the settlement papers as possessed by tenants of all grades, village headmen and others in the said estate.

III. I shall not collect higher rents than are recorded in the settlement papers as demandable from the tenants of any class or grade, except in accordance with the law for the time being in force relating to the enhancement or increase of rents.

IV. I shall not collect or attempt to collect any illegal cess or abwabs or exact forced labour, nor shall I collect the legal cess at a rate higher than that laid down in the law regarding cess, and I shall pay the aforesaid amount of Government revenue according to the instalments noted at the foot of this engagement. If I fail to pay the revenue as herein provided, the arrears shall be recoverable as land revenue under the law for the time being in force for the recovery of such arrears.

V. At the end of the aforesaid period of settlement and of each successive settlement for which I or my heirs or successors in interest shall engage, I or my heirs or successors in interest shall, subject to the same conditions as in the proviso to section 3 of Regulation VII of 1822, have the right to a renewal of the settlement on the revenue that may be then fixed. If I or they do not take the settlement on the revenue that may be then fixed or if I refuse to hold on or to take summary settlement for any reason after the expiry of any settlement, my right and interest in the estate shall entirely cease, and the Collector shall be at liberty to make any fresh arrangements with others, or to hold the estate khas as may appear to him advisable without payment of malikana.

VI. In the event of my or my heirs or successors in interest holding on after the expiration of the term of settlement specified in this kabulyat, I or they shall be held responsible on account of any year subsequent to

the expiry of such terms of settlement for any enhanced revenue as may then be assessed and shall not require from Government any notice of its intention to revise the settlement.

VII. On the occurrence of any agricultural calamity when Government has suspended or remitted the whole or any portion of the revenue for any period, I shall suspend or remit rents payable to me by tenants in the same proportion as the revenue is suspended or remitted and for the same period and, if I fail to do so, the Collector shall be at liberty to withdraw the suspension or remission granted.

VIII. If any waste lands in the estate be brought under cultivation through my exertions, my right to receive the rents derivable therefrom without any increase of revenue shall continue during the currency of this settlement.

IX. I shall file any measurement, collection or other papers that may be from time to time called for from me by the Collector in such Public Office as may be prescribed and shall observe the instructions laid down by the Board of Revenue or Government for the maintenance and correction of the Survey and Settlement Records without any objection so long as this lease continues in force.

X. I shall not permit any encroachment to be made on lands reserved according to the Settlement Records for common village use, such as grazing grounds, cremation or burial grounds and fuel reserves.

XI. I bind myself year by year to repair and keep up all boundary marks within the estate, and these marks shall be liable to inspection at any time by the Collector of the district without any notice whatsoever.

XII. If the Collector, in consultation with the local officers of the Irrigation Department, declare that construction of new or repairs to any existing outer embankments, cross-bunds or dams, or both, or provision of sluices or other means of draining off surplus water are necessary for the protection of tenants, I, on receipt of a notice in writing to that effect from the Collector, shall, subject to a right of appeal within seven days from the receipt of the notice aforesaid to the Superior Revenue Authorities whose decision shall be accepted as final, make such construction or repairs according to the dimensions and specifications approved by the Collector, and shall maintain the works in proper repair to the satisfaction of the Collector who shall have power to inspect them himself or through any officer duly authorised by him.

XIII. In the event of my violating the conditions of clauses III, IV and IX of this lease, the provisions of the law bearing on the matter may be resorted to, to enforce compliance with its conditions, or the Collector may cancel the lease and take steps to enter into direct possession of the estate. If on receipt of a due notice from the Collector I fail to construct or keep in proper repair any embankments, cross-bunds, dams or sluices or means of draining off surplus water declared by the Collector to be necessary under clause XII above the Collector shall have power to execute such works and to recover the cost thereof from me under the law for the time

being in force for the recovery of public demands.

XIV. Neither I nor my heirs or successors in interest shall be at liberty to raise objection to the remeasurement of the estates, and reassessment of the revenue of the same after this Settlement has expired.

XV. I admit that the State has reserved to itself all rights in minerals with full liberty to search for the same and that in case minerals are found, the State is entitled to them and to rights of way and other reasonable facilities for working and carrying away such minerals. The State has also the right to grant similar powers to the assignees of its minerals rights, provided that whenever in the exercise of any such right of the State the rights of any persons are infringed by the occupation or disturbance of the surface of any land, the State

or its assignees shall pay to such persons such amount of compensation for the damages so caused as may be determined by the officers of Government specially deputed for the purpose.

XVI. In the event of my death, my rights and liabilities as a tenure-holder in respect of this estate shall devolve upon my heir or heirs, *vide* Board's letter No. 2031 W. L., dated the 20th March, 1925.

XVII. This settlement has been made with me in anticipation of and subject to the sanction of the Competent Revenue Authorities whose orders, if any, shall be carried out by me with effect from the commencement of this lease. This settlement shall not be valid if it is set aside by such authorities.

SCHEDULE OF KISTS:—

APPENDIX V(b).

[Form of Kabulyat to be executed by the Malguzar of Temporarily Settled Government Estates.]

IN WHOSE FAVOUR EXECUTED—

SECRETARY OF STATE FOR INDIA.

Name, parentage and residence of the person executing the kabulyat.

I take the malguzari settlement of Government estate in district Khulna bearing Tauzi No. for years from 1st April to 31st March at an annual net rent of Rs. subject to the following conditions.

1. Without the sanction of the Collector previously obtained in writing I have not the power to transfer by gift, public or private sale, mortgage or in any other manner my rights or make another a co-sharer with me as a malguzar of the estate. I have not the power to sublet the tenure or any portion thereof to any Ijaradar, Chakdar or other person or to grant any leases whatsoever creating any tenure between myself and the raiyat cultivator. No sublease or other incumbrance created by me in contravention of the terms of this clause shall be in any way binding on Government.

2. I shall respect the rights recorded in the settlement papers as possessed by tenants of all grades, village headmen and others in the said estate.

3. I shall not collect higher rents than are recorded in the settlement papers as demandable from the tenants of any class or grade, but I may collect rents for waste lands cultivated through my own exertions.

4. I shall not collect or attempt to collect any illegal cess or abwads or exact forced labour, nor shall I collect the legal cess at a rate higher than that laid down in the laws regarding cess, and I shall pay the aforesaid amount of Government rent according to the instalments noted at the foot of this engagement. If I fail to pay the rent as herein provided, the arrears shall be recoverable as land revenue under the law for the time being in force for the recovery of such arrears.

5. At the end of the aforesaid period of settlement and of each successive settlement for which I or my heirs or successors in interest shall engage, I or my heirs or successors in interest shall, subject having observed all the conditions of the engagement which we entered into with Government in respect of this estate but not otherwise, have the right to a renewal of the settlement at such rent and on such conditions as may then be determined by Government, and the decision of the highest Revenue Authority shall be final in the matter. But in the event of my or my heirs or successors in interest once ceasing for any lawful reason, whether of our own will or against our will to hold the settlement, all rights or interests which I or they hold in the estate shall entirely cease

and I or they shall have no claim either to malikana or any future settlement of the estate.

6. In the event of my or my heirs or successors in interest holding on after the expiration of the term of settlement specified in this kabulyat, I or they shall be held responsible on account of any year subsequent to the expiry of such term of settlement for any enhanced rent as may be then assessed and shall not require from Government any notice of its intention to revise the settlement.

7. On the occurrence of any agricultural calamity when Government has suspended or remitted the whole or any portion of my rent for any period, I shall suspend or remit rents payable to me by tenants in the same proportion as the rent is suspended or remitted and for the same period, and if I fail to do so the Collector shall be at liberty to withdraw the suspension or remission granted.

8. If any waste land in the estate be brought under cultivation through my exertions, my right to receive the rents derivable therefrom without any increase of rent due to Government shall continue during the currency of this settlement.

9. I shall file any measurement, collection or other papers that may be from time to time called for from me by the Collector in such public office as may be prescribed and shall observe the instructions laid down by the Board of Revenue or Government for the maintenance and correction of the survey and settlement record without any objection so long as this lease continues in force.

10. I shall not permit any encroachment to be made on lands reserved according to the settlement record for common village use, such as grazing ground, cremation or burial ground or fuel reserves.

11. I bind myself year by year to repair and keep up all boundary marks within the estate and these marks shall be liable to inspection at any time by the Collector of the district without any notice whatsoever.

12. If the Collector, in consultation with local officers of the Irrigation Department, declare that construction of new or repairs to any existing outer embankments, cross-bunds or dams or both or provision of sluices or other means of draining off surplus water are necessary for the protection of tenants, I, on receipt of a notice in writing to that effect from the Collector, shall, subject to a right of appeal within seven days from the receipt of the notice aforesaid to the Superior Revenue Authorities whose decision shall be accepted as final, make such construction or repairs according to the dimensions and specification approved by the Collector, and shall maintain the works in proper repair to the satisfaction of the Collector who shall have power to inspect them himself or through an officer duly authorised by him.

13. In the event of my violating any of the conditions of the lease or if I become insolvent or allow my lease to be sold in execution of a decree or fail to comply with the provisions of the law relating to grant of rent receipts, the provisions of the law bearing on the matter may be resorted to, to enforce compliance with its conditions, or the Collector may cancel the lease and take

steps to enter into direct possession of the estate.

If on receipt of due notice from the Collector, I fail to construct or keep in proper repair any embankment, cross-bunds or dams or sluices or means of draining off surplus water declared by the Collector to be necessary under clause 12 above, the Collector shall have power to execute such works and to recover the cost thereof from me under the law for the time being in force for the recovery of public demands.

14. Neither I nor my heirs or successors in interest shall be at liberty to raise any objection to the remeasurement of the estate and the reassessment of the rent due to Government for the same after this settlement has expired.

15. I admit that the State has reserved to itself all rights in minerals with full liberty to search for the same and that in case minerals are found, that the State is entitled

to them and to rights of way and other reasonable facilities for working and carrying away such minerals. The State has also the right to grant similar powers to the assignees of its mineral rights, provided that whenever in the exercise of any such right of the State the rights of any persons are infringed by the occupation or disturbance of the surface of any land, the State or its assignees shall pay to such persons such amount of compensation for the damages so caused as may be determined by the officers of Government specially deputed for the purpose.

16. This settlement has been made with me in anticipation of and subject to the sanction of the Competent Revenue Authorities whose orders, if any shall be carried out by me with effect from the commencement of this lease. This settlement shall not be valid if it is set aside by such authorities.

SCHEDULE OF KISTS:—

APPENDIX V (c).

Form of Agreement to be used in Temporary Settlement of a Government Estate with a Haoladar.]

IN WHOSE FAVOUR EXECUTED—

SECRETARY OF STATE FOR INDIA.

Name, parentage and residence of the person
executing kabulyat.

I take settlement of Government estate in district bearing Tauzi No. for years from 1st April to 31st March at an annual net revenue of Rs. subject to the following conditions.

I. Subject to the terms of this settlement, I shall be at liberty to sell, alienate or transfer my entire right in the said estate, but I shall not be entitled to divide my right in the haola with any other person or to sublet it or lease any portion of it to any person except a *bona fide* cultivator. In case I transfer my entire right, I shall remain liable for the revenue assessed thereon, unless the transfer is registered under the provisions of Act VII (B. G.) of 1876.

II. I shall respect the rights recorded in the settlement papers as possessed by tenants of all grades, village headmen and others in the said estate.

III. I shall not collect higher rents than are recorded in the settlement papers as demandable from the tenants of any class or grade, except in accordance with the law for the time being in force relating to the enhancement or increase of rents.

IV. I shall not collect or attempt to collect any illegal cess or abwabs or exact forced labour nor shall I collect the legal cess at a rate higher than that laid down in the law regarding cess, and I shall pay the aforesaid amount of Government revenue according to the instalments noted at the foot of this engagement. If I fail to pay the revenue as herein provided, the arrears shall be recoverable under the provisions of Act VII (B. C.) of 1868.

V. At the end of the aforesaid period of settlement and after every successive settlement for which I or my heirs or successors in interest shall engage, I or my heirs or successors in interest shall, subject to the proviso to section 3 of Regulation VII of 1822, have a right to renewal of settlement for a period of 30 years at a rate of revenue which is not higher than that paid for similar land by tenure-holders under neighbouring landlords and grantees. If I do not take the settlement on the revenue that may then be fixed or if I refuse to hold on or to take summary settlement for any reason after the expiry of any settlement, my right and interest in the estate shall entirely cease, and the Collector shall be at liberty to make any fresh arrangements with others or to hold the estate khas as may appear to him advisable.

VI. In the event of my or my heirs or successors in interest holding on after the expiration of the term of settlement specified

in this kabulyat, I, or they shall be held responsible on account of any year subsequent to the expiry of such terms of settlement for any enhanced revenue as may then be assessed upon the estate and shall not require from Government any notice of its intention to revise the settlement.

VII. On the occurrence of any agricultural calamity when Government has suspended or remitted the whole or any portion of the revenue for any period, I shall suspend or remit rents payable to me by tenants in the same proportion as the revenue is suspended or remitted and for the same period, and, if I fail to do so, the Collector shall be at liberty to withdraw the suspension or remission granted.

VIII. If any waste lands in the estate be brought under cultivation through my exertions, my right to receive the rents derivable therefrom without any increase of revenue shall continue during the currency of this settlement.

IX. I shall file any measurement, collections or other papers that may be from time to time called for from me by the Collector in such Public office as may be prescribed and shall observe the instructions laid down by the Board of Revenue or Government for the maintenance and correction of the Survey and Settlement Records without any objection, so long as this lease continues in force.

X. I shall not permit any encroachment to be made on lands reserved according to the Settlement Records for common village use, such as grazing grounds, cremation or burial grounds, and fuel reserves.

XI. I bind myself year by year to repair and keep up all boundary marks within the estate, and these marks shall be liable to inspection by the Collector of the district without any notice whatsoever.

XII. If the Collector, in consultation with the local officers of the Irrigation Department, declares that construction of new or repairs to any existing outer embankments, cross-bunds or dams, or both, or provision of sluice or other means of draining off surplus water are necessary for the protection of tenants, I, on receipt of a notice in writing to that effect from the Collector, shall, subject to a right of appeal to the Superior Revenue Authorities, make such construction or repairs according to the dimensions and specifications approved by the Collector, and shall maintain the works in proper repair to the satisfaction of the Collector who shall have power to inspect them himself or through an officer duly authorised by him.

XIII. In the event of my violating the conditions of clauses III, IV and IX of this lease, the provisions of the law bearing on the matter may be resorted to, to enforce compliance with its conditions, or the Collector may cancel the lease and make any fresh arrangements with others or hold the estate khas as may appear to him advisable. If on receipt of a due notice from the Collector I fail to construct or keep in proper repair any embankments, cross-bunds, dams or sluices or means of draining off surplus water declared by the Collector to be necessary under clause XII above, the Collector

shall have power to execute such works and to recover the cost thereof from me under the law for the time being in force for the recovery of public demands.

XIV. Neither I nor my heirs or successors in interest shall be at liberty to raise any objection to the remeasurement of the estate and the reassessment of the revenue of the same after this settlement has expired.

XV. I admit that the State has reserved to itself all rights in minerals with full liberty to search for the same and in case minerals are found, the State is entitled to them and to rights of way and other reasonable facilities for working and carrying away such minerals. The State has also the right to grant similar powers to the assignees of its mineral rights, provided that whenever in the exercise of any such right of the State

the rights of any persons are infringed by the occupation or disturbance of the surface of the land, the State or its assignees shall pay to such persons such amount of compensation for the damages so caused as may be determined by the officers of Government specially deputed for the purpose.

XVI. In the event of my death, my rights and liabilities in respect of this estate shall devolve upon my heir or heirs.

XVII. This settlement has been made with me in anticipation of and subject to the sanction of the Competent Revenue Authorities whose orders, if any, shall be carried out by me from the commencement of this lease. This settlement shall not be valid if it is set aside by such authorities.

SCHEDULE OF KISTS:—

APPENDIX VI.

Statement of Officers who were employed in the district of Khulha.

Serial No.	Name of officer.	Period of employment.		Nature of duties.
		From—	To—	
1	2	3	4	5
	<i>Civilians.</i>			
1	L. R. Fawcus, Esq., I.C.S. ..	1-9-1921	....	Settlement Officer.
2	A. H. Kemm, Esq., I.C.S. ..	2-11-1921	2-4-1922	Cadastral Charge Officer.
3	L. G. Pinnell, Esq., I.C.S. ..	2-1-1923	26-4-1924	Cadastral and Attestation Charge Officer.
4	T. B. Jameson, Esq., I.C.S. ..	11-11-1923	11-12-1924	Cadastral and Attestation Charge Officer.
	<i>Extra Assistant Settlement Superintendent of Surveys.</i>			
5	I. Newton, Esq.	6-11-1922	22-6-1923	Technical Adviser.
	<i>Deputy Collectors.</i>			
6	Babu Sambhu Charan Chatterjee.	18-10-1921	19-7-1922	Cadastral and Attestation Charge Officer.
		7-10-1922	26-2-1923	Ditto.
		14-10-1924	25-11-1925	Objection Officer.
7	Moulvi Lutfar Rahaman Tarafdar.	18-10-1921	4-7-1922	Cadastral Circle Officer.
		2-11-1923	26-4-1924	Attestation and Objection Officer.
8	Babu Promod Ranjan Das Gupta.	26-10-1923	....	Cadastral Circle Officer, Attestation Charge Officer and Objection, Jamabandi and Diara Officer.
	<i>Munsiffs.</i>			
9	Babu Jitendra Prasad Sen ..	{ 15-10-1921	16-4-1922	{ Cadastral and Attestation Circle Officer.
		{ 23-10-1922	28-2-1923	
10	„ Jogendra Nath Wadadar	7-10-1922	31-5-1923	Cadastral Circle Officer.
	<i>Sub-Deputy Collectors.</i>			
11	Rai Sahib Anath Bandhu Chatterjee.	24-6-1921	....	Headquarters Assistant Settlement Officer.
12	Babu Phani Lal Mukherjee ..	17-10-1921	18-6-1922	Cadastral Circle Officer.
13	„ Akhil Chandra Ganguly	23-10-1921	23-3-1923	Technical Adviser.
14	„ Suresh Chandra Chakraborty.	30-10-1921	13-5-1922	Cadastral Circle Officer.
15	„ Rajendra Nath Gupta ..	18-10-1921	9-4-1922	Ditto.
16	„ Badanya Kumar Roy ..	7-11-1921	2-7-1922	Ditto.
17	„ Promada Kumar Basu	25-10-1921	18-8-1922	Ditto.
18	„ Lal Mohan Basu ..	20-8-1923	....	Technical Adviser.
19	Moulvi Ali Azam ..	7-10-1922	26-2-1923	Attestation Charge Office.
20	Babu Janaki Bhushan Sinha	15-11-1922	....	Jamabandi and Diara Officer.
21	„ Suresh Chandra Das Gupta.	27-10-1923	25-7-1925	Cadastral and Attestation Circle Officer.
22	„ Sasadhar Das Gupta ..	4-11-1923	3-7-1924	Ditto.
		15-10-1924	17-7-1925	Objection Officer.

APPENDIX VI—*contd.*Statement of Officers who were employed in the district of Khulna—*contd.*

Serial No.	Name of officer.	*Period of employment.		Nature of duties.
		From—	To—	
1	2	3	4	5
	<i>Sub-Deputy Collectors—concltd.</i>			
23	Babu Purna Chandra Sen ..	{ 9-11-1923 15-10-1924	{ 2-6-1924 8-6-1925	{ Cadastral and Attestation Circle Officer.
24	.. Sudhanshu Ranjan De	5-11-1923	....	Cadastral and Attestation Circle Officer, Objection and case-work Officer.
25	Moulvi Khurshed Alam Choudhury.	5-11-1923	24-3-1924	Cadastral Circle Officer.
26	Babu Harendra Nath Mukherjee.	22-10-1924	....	Attestation and Case-work Officer.
	<i>Revenue Officer.</i>			
1	Moulvi Golam Akbar ..	18-8-1921	1-10-1924	Cadastral Circle Officer and Attestation Circle Officer.
2	Babu Nibaran Ch. Datta ..	12-12-1921	2-10-1925	Ditto.
3	.. Suresh Ch. Sen ..	{ 3-4-1922 8-1-1925	{ 1-10-1924 19-9-1925	{ Ditto.
4	.. Jyotish Chandra Choudhury.	{ 14-3-1922 7-10-1922	{ 5-8-1922 16-8-1924	{ Bujharat and Cadastral Circle Officer and Attestation Circle Officer.
5	.. Promatha Nath Choudhury.	5-4-1922	21-7-1922	Cadastral Circle Officer.
6	.. Chandra M. Karmaker	11-3-1922	....	Bujharat, Attestation Circle Officer and Jamabandi Works.
7	.. Jogendra Chandra Banerjee.	15-4-1922	21-7-1922	Cadastral Circle Officer.
8	.. Rajendra Nath Chatterjee.	7-10-1922	2-10-1925	Attestation Circle Officer and Objection Officer.
9	.. Anukul Ch. Ganguly ..	7-10-1922	2-10-1925	Attestation Circle Officer.
10	.. Anukul Ch. Sarkar ..	7-10-1922	13-10-1923	Ditto.
11	Moulvi Mafizuddin Khan ..	5-10-1922	2-10-1925	Attestation Circle Officer and Objection Officer.
12	.. Md. Siddique ..	7-10-1922	19-9-1925	Attestation Circle Officer and Jamabandi Works.
13	.. Golam Hydar ..	7-12-1922	27-1-1923	Cadastral Circle Officer.
14	.. Abdul Gani Talukdar	7-10-1922	1-10-1924	Attestation Circle Officer.
15	Babu Upendra Kishore Mazumdar.	6-10-1922	2-10-1925	Ditto.
16	Moulvi Taberuddin Ahmad ..	{ 7-10-1922 14-10-1924	{ 13-10-1923 1-9-1925	{ Ditto.
17	Babu Janardan Sen Gupta ..	7-10-1922	13-10-1923	Ditto.
18	.. Prokash Ch. Das Gupta	7-10-1922	1-10-1924	Ditto.
19	.. Sita Nath Das Gupta ..	7-10-1922	2-10-1925	Ditto.
20	Moulvi Ali Hossain ..	7-10-1922	6-4-1924	Ditto.
21	Babu Jogendra Chandra Dutta	{ 2-11-1922 7-12-1923	{ 30-5-1923	{ Bujharat, Cadastral Circle Officer and Press Superintendent.
22	Moulvi Mozaffar Ahmed ..	7-10-1922	4-3-1923	Cadastral Circle Officer.

APPENDIX VI—*contd.*Statement of officers who were employed in the district of Khulna—*contd.*

Serial No.	Name of officer.	Period of employment.		Nature of duties.
		From—	To—	
1	2	3	4	5
	<i>Revenue Officer—concl'd.</i>			
23	Moulvi Kashem Ali Khan ..	11-4-1923	2-10-1923	Cadastral and Attestation Circle Officer.
24	„ Abdul Wahed ..	21-4-1923	13-10-1924	Attestation Circle Officer.
25	Babu Sideswar Halder ..	26-10-1923	2-10-1925	Attestation Circle Officer.
26	„ Syama Kanta Ganguly	26-10-1923	1-10-1924	Ditto.
	<i>Kanungos.</i>			
1	Mr. R. J. DeSilva ..	28-9-1921	1-10-1924	Bujharat.
2	Babu Jadu Nath Ganguly ..	18-10-1921	17-4-1924	Do. Bujharat Kanungo and Cadastral Circle Officer.
3	Moulvi Abdur Razzak ..	18-10-1921	29-11-1922	Bujharat.
4	„ Asimuddin Ahmed ..	18-10-1921	19-4-1924	Bujharat Kanungo and Cadastral Circle Officer.
5	„ Golam Assam Choudhuri	{ 18-10-1921 7-10-1923	{ 24-7-1922 1-10-1924	{ Bujharat.
6	Babu Nagendra Kishore Biswas	18-10-1921	1-10-1924	Do.
7	„ Subodh Ch. Ghosh ..	{ 18-10-1921 7-10-1922	{ 26-7-1922 28-12-1924	{ Do.
8	„ Upendra Nath Pal ..	18-10-1921	17-7-1922	Do.
9	„ Jogendra Kumar Sen ..	18-10-1921	1-10-1924	Do.
10	„ Santosh Kumar Bhattacharjee.	18-10-1921	31-10-1924	Do.
11	„ Jitendra Nath Roy ..	18-10-1921	1-10-1924	Do.
12	Moulvi A. F. Basirul Huq, Choudhury.	20-10-1921	1-10-1924	Do.
13	„ Kazi Abdul Gani ..	18-10-1921	28-8-1924	Do.
14	Babu Satish Chandra Misra ..	22-10-1921	5-9-1924	Do.
15	„ Jagadish Chandra Bhattacharjee.	18-10-1921	1-10-1924	Do.
16	Moulvi Bazlal Haq Choudhury	{ 18-10-1921 1-3-1924	{ 20-4-1923 1-10-1924	{ Do.
17	Babu Jogendra Nath Sen ..	18-10-1921	1-10-1924	Do.
18	„ Hrishi Kesh Mazumdar	18-10-1921	1-10-1924	Do.
19	„ Anukul Chandra Das ..	18-10-1921	1-10-1924	Do.
20	„ Dharendra Chandra Sen	18-10-1921	1-10-1924	Do.
21	Moulvi Abdul Gani ..	18-10-1921	1-10-1924	Do.
22	Babu Indu Bhushan Chatterjee	18-10-1921	17-8-1924	Do.
23	Moulvi Abdul Gaffar ..	18-10-1921	1-10-1924	Bujharat.
24	Babu Upendra N. Ganguly ..	18-10-1921	19-9-1925	Bujharat and Sadar Kanungo.
25	„ Suresh Ch Das Gupta ..	18-10-1921	1-10-1924	Bujharat.
26	„ Jogeswar Mazumdar ..	18-10-1921	5-12-1921	Do.
27	„ Manindra Mohan Das ..	18-10-1921	16-10-1922	Do.

APPENDIX VI—*contd.*Statement of officers who were employed in the district of Khulna—*contd.*

Serial No.	Name of officer.	Period of employment.		Nature of duties.
		From—	To—	
1	2	3	4	5
	<i>Kanungoes—contd.</i>			
28	Babu Priya Mohan Ghatak ..	{ 18-10-1921 3-4-1923	{ 27-1-1923 1-10-1924	} Bujharat.
29	.. Hem Chandra Pathak ..	18-10-1921	2-9-1924	Do.
30	.. Santosh Kumar Chakraborty.	18-10-1921	1-10-1924	Do.
31	.. Umesh Chandra Chakraborty.	18-10-1921	31-10-1924	Do.
32	.. Bhim Chandar Barman ..	18-10-1921	4-12-1923	Do.
33	.. Hira Lal Banerjee ..	18-10-1921	1-10-1924	Do.
34	.. Surendra N. Banerjee ..	18-10-1921	1-10-1924	Do.
35	.. Surendra Kumar Sur ..	18-10-1921	1-10-1924	Do.
36	.. Joytish Chandra Das ..	18-10-1921	30-8-1924	Do.
37	Moulvi Md. Abdul Mazid Choudhury.	18-10-1921	28-3-1922	Do.
38	Babu Sudhir Chandra Bardhan	18-10-1921	1-10-1924	Do.
39	.. Dinesh Chandra Sen-Gupta	18-10-1921	1-10-1924	Do.
40	Moulvi Kazi A. N. Wahed Hossain.	18-10-1921	16-8-1924	Do.
41	.. Shamasuddin Ahmed ..	18-10-1921	1-10-1924	Do.
42	Babu Hari Das Das ..	18-10-1921	16-10-1924	Do.
43	Moulvi Ramizuddin Ahmed ..	18-10-1921	4-7-1924	Do.
44	Babu Moni Mohan Mukherjee ..	18-10-1921	2-9-1924	Do.
45	Moulvi Abul Mansur Md. Ali Akbar.	18-10-1921	17-9-1923	Do.
46	Babu Brojendra K. Sarkar ..	19-10-1921	1-3-1922	Do.
47	Moulvi Khundaker Fazlul Haqu	18-10-1921	13-10-1923	Do.
48	.. Asraf Ali ..	18-10-1921	1-10-1924	Do.
49	Babu Jogendra Nath Ghosh ..	{ 18-10-1921 14-2-1922	{ 1-12-1921 11-5-1922	} Do.
50	Moulvi Shamsul Hossain ..	18-10-1921	14-10-1923	Do.
51	.. Abul Hossain ..	18-10-1921	14-10-1923	Do.
52	.. Md. Asanulla ..	18-10-1921	14-10-1923	Do.
53	Babu Hara Nath Majumdar ..	18-10-1921	7-2-1923	Do.
54	.. Rebati Mohan Guha Thakurta.	18-10-1921	1-10-1924	Do.
55	.. Kulada Kinkar Ghosh ..	18-10-1921	1-10-1924	Do.
56	.. Nalini Kanta Mukherjee	18-10-1921	1-10-1924	Do.
57	.. Upendra Chandra Choudhury.	4-11-1921	1-10-1924	Do.
58	.. Rajani K. Choudhury ..	7-11-1921	1-10-1924	Do.
59	.. Ambika Charan Sen ..	5-11-1921	28-2-1922	Do.
60	Moulvi Sayed Muzzam Hossain	20-10-1921	10-12-1922	Do.

APPENDIX VI—concl'd.

Statement of officers who were employed in the district of Khulna—concl'd.

Serial No.	Name of officer.	Period of employment.		Nature of duties.
		From—	To—	
1	2	3	4	5
	<i>Kanungoes—concl'd.</i>			
61	Babu Hemendra Nath Bose ..	25-1-1922	8-6-1922	Bujharat.
62	.. Jatindra M. Chakraborty	{ 15-4-1922 21-11-1922	{ 4-7-1922 17-4-1924	{ Do.
63	.. Provash Ch. Chatterjee ..	{ 11-4-1922 10-10-1922	{ 25-7-1922 27-7-1924	{ Do.
64	.. Nagendra K. Banerjee ..	10-10-1922	23-7-1924	Do.
65	Moulvi Badar Uddin Ahmed ..	7-10-1922	1-10-1924	Do.
66	Babu Girish Chandra Sen ..	25-1-1922	1-10-1924	Do.
67	.. Biseswar Majumdar ..	23-4-1924	....	Record Room Enquiry and Recovery Officer.
68	.. Parameswar Sanyal ..	14-10-1924	....	Recovery Officer.
69	.. Radha Ch. Mandal ..	{ 22-1-1922 1-5-1925	{ 1-10-1924 2-10-1925	{ Bujharat.
70	.. Sukumar Mukherjee ..	7-4-1922	31-7-1924	Do.
71	Moulvi Tayebuddin Ahmed ..	{ 7-4-1922 14-10-1924	{ 6-4-1923 17-12-1924	{ Do.
72	Babu Satyendra N. Bose ..	8-4-1922	17-10-1922	Do.
73	.. Kalipada Sen ..	9-4-1922	23-9-1922	Do.
74	.. Kamala Kanta Bataharyal	9-4-1922	23-10-1922	Do.
75	Moulvi Nabi Reza Bhushan ..	12-5-1922	7-11-1922	Do.
76	Babu Benoy Bhushan Sen ..	7-10-1922	1-10-1924	Do.
77	Moulvi Abdul Aziz Akhan ..	{ 7-10-1922 1-3-1925	{ 1-10-1924 2-10-1925	{ Do.
78	Babu Satish Chandra Datta ..	7-10-1922	13-10-1923	Do.
79	.. Anukul Ch. Das Gupta ..	7-10-1922	1-10-1924	Do.
80	.. Souri Bilash Mukherjee ..	7-10-1922	1-10-1924	Do.
81	.. Jatindra Kumar Nag ..	{ 7-10-1922 15-7-1925	{ 1-10-1924 2-10-1925	{ Do.
82	Moulvi Zahidul Islam ..	7-10-1922	1-10-1924	Do.
83	Babu Bishnupada Chatterjee ..	7-10-1924	1-10-1924	Do.
84	.. Jatindra M. Majumdar ..	7-10-1922	1-10-1924	Do.
85	.. Probhat Chandra Bose ..	2-6-1923	31-7-1924	Do.
86	.. Sharaju Lal Bose ..	10-4-1924	1-10-1924	Do.
87	.. Dharendra Nath Bhattacherjee.	{ 14-4-1924 15-5-1925	{ 1-10-1924 2-10-1925	{ Do.
88	Moulvi Moizuddin Ahmed ..	16-4-1924	1-10-1924	Do.
89	Babu Birinchi Lal Roy ..	8-4-1924	1-10-1924	Do.
90	Moulvi Md. Ismail ..	14-5-1924	16-8-1924	Do.
91	Babu Nani Gopal Mukherjee ..	15-5-1925	9-8-1925	Do.

APPENDIX VII (a).

List of Important Notifications.

Local area.	Number and date of Notification.			
	Under section 3, Survey Act.	Under section 101 (I), B.T. Act.	Under Act IX of 1847.	Under section 101(2) (d), B.T. Act.
Khulna	No. 7543 L.R., dated the 3rd September 1920.	No. 7167 L.R., dated the 13th August 1921, read with No. 7877 L.R., dated the 4th September 1921.		
Khulna, including that portion of the district which has been transferred to the district of Faridpur by Notification No. 2275 L.R., dated the 18th September 1913.			No. 6022 L.R., dated the 3rd August 1923.	
Tauzi No. 978 of Khulna Collectorate falling in the district of Bakarganj.				No. 8991 L.R., dated the 12th August 1925.

APPENDIX VII (b).

Name of officer.	Number and date of Notification.			
	Appointment as Settlement Officers.	Powers of Revenue Officer and Settlement Officer.	Powers of a Collector under Regulation VII of 1822, IX of 1825, III of 1828 and IX of 1833.	Special powers under the Bengal Tenancy Act.
L. R. Fawcus, Esq., I.C.S.	No. 7859 L.R., dated the 5th September 1921.	<p><i>Khulna district.</i></p> <p>No. 7860 L.R., dated the 5th September 1921.</p> <p>No. 10500 L.R., dated the 1st December 1922.</p> <p><i>Jessore district.</i></p> <p>No. 902 L.R., dated the 26th January 1923.</p> <p>No. 907 L.R., dated the 26th January 1923.</p> <p><i>Faridpur district.</i></p> <p>No. 5300 L.R., dated the 13th May 1925.</p> <p>No. 5301 L.R., dated the 13th May 1925.</p> <p><i>Bakarganj district.</i></p> <p>No. 5030 L.R., dated the 4th May 1925.</p> <p>No. 5031 L.R., dated the 4th May 1925.</p>		<p>Nos. 10496 L.R., 10497 L.R., 10498 L.R., and 10499 L.R., dated the 1st December 1922.</p> <p>Nos. 903 L.R., 904 L.R., 905 L.R., and 906 L.R., dated the 26th January 1923.</p>

APPENDIX VII (c).

Adoption of villages as units of survey and record for the purpose of clause 10 (b) of section 3 of the Bengal Tenancy Act.

Name of police-station.	Number and date of Notification.
Satkhirā, Tala, Asasuni, Kaligānj, Debhata, Kalaroa, Shyamnagar, Daulatpur and Terakhada ..	No. 3253 L.R., dated the 16th March 1925.
Palerhat, Phultola, Baitaghata, Dumuria, Ducope and Paik-gachha ..	No. 7031 L.R., dated the 15th August 1924.
Bagerhat, Fakirhat, Kachua, Rampal, Morrellganj, Mollahat and Sarankhola ..	No. 4426 L.R., dated the 8th April 1925.
Mollahat in regard to villages (J. L. Nos. 53 to 61) surveyed in Mokimpur Petty Settlement ..	No. 3674 L.R., dated the 23rd March 1925.

APPENDIX VIII.

Reprint of Chapters XIX, XX, XXI of Pargiter's History of the Sunderbans.

CHAPTER XIX.

REVISED SUNDERBANS GRANT RULES OF
24TH SEPTEMBER 1853.

248. **State of Sunderbans grants, 1852.**—The Board had had the state of the Sunderbans repeatedly under consideration. In connection with an application for extension of the free period in lots 56 and 72, they called, in May 1852, for a statement of all grants in the Jessore district, and in June following for a statement of all grants showing a total of 264 allotments, of which 173 had been granted out, while the rest were undisposed of. The grants were classified thus* :—

	24-Parganas.	Jessore.	Bakarganj.	Total.
Free period expired, assessed and settled.	6	4	3	13
Free period under settlement	5	1	..	6
Free period extended ..	37	..	3	40
Original grants unmodified ..	45	4	19	68
Original pottas cancelled and new grants made.	36	3	..	39
Original pottas not regranted	5	2	..	7
Total once granted out ..	134	14	25	173
Unganted allotments	53	38	..	91
Total allotments ..	187	52	25	264

*Sunderbans Commissioner to Presidency Commissioner, No. 220, dated the 26th June 1852. This table is complete for country as far as the river Pasur (excluding the sea-face), but not beyond that, where no survey had been carried out. Hence no ungranted allotments are assigned to the Bakarganj district, though it contained abundant forest lands undisposed of.

†Presidency Commissioner to Sunderbans Commissioner, No. 228, dated the 9th December 1852.

The Presidency Commissioner and Board took these facts into consideration, but meanwhile, when reporting to Government in December 1852 on the annual returns of the Sunderbans, the Board observed that the system of grants had certainly not answered. Clearances had been less than was anticipated; many settlements had broken down; the rent-free term had been extended in nearly all cases where it had expired, and the rents derived from the grants had been next to nothing. Extensive inquiries had been made and were in progress, and the Board hoped shortly to lay before the Government a revised scheme for Sunderbans lands.†

249. **Modifications in grant rules proposed by the Presidency Commissioner, 1852.**—The Presidency Commissioner Mr. Bruce, in forwarding the foregoing statement to the Board, reviewed the system in force. He disapproved of the long free period as raising illusory expectations in the minds of grantees. The assessment in a great part of the Sunderbans was higher than in the adjacent permanently-settled estates—a circumstance that hampered reclamation in the first instance and also led to the relapse of cultivation and the ruin of the grantee. Two remedies were open—either a general extension of the free period or a reduction of the Government demand. The former was unsatisfactory, as no mere extension would reduce the final rate of assessment to a proper standard, while in the interim Government would receive nothing. He, therefore, preferred the latter remedy. The reduction of the rate from 8 to 4 annas was absolutely necessary in the Jessore portion of the Sunderbans, while a reduction to 5 annas would, he thought, be sufficient in the 24-Parganas where access was readier and the markets nearer, and to 5½ annas in Bakarganj, where, though the markets were distant, reclamation was easier, the water sweeter, and the crops more plentiful. These modifications he recommended as desirable alike in the interests of the Government and the grantees.

250. **Modifications proposed by grantees.**—The Board agreed generally with Mr. Bruce's views, but before submitting the matter to Government gave the grantees an opportunity of expressing their sentiments. Some 40 grantees laid a petition before the Board, in which they declared that unless more liberal terms were accorded, Government could never look forward to the general clearance of the Sunderbans in the face of the expense, labour and risk incurred by the grantees and the manifest failure of the rules then extant. They asked for the following terms—a free period of 20 years, then an assessment of one anna on half the area for ten years, and thereafter the assessment of the whole area (deducting the irreclaimable portion) at 1 anna for ten years, at 1½ anna for the next ten years, and afterwards at 2 annas, the maximum rate, in perpetuity: the grant to be liable to forfeiture if one-eighth of the area were not cleared in five years.

251. Review of Sunderbans grant scheme by the Board, 1852.—The Board—Messrs. Gordon, Ricketts and E. Currie—submitted their report No. 461 to Government on 14th December 1852, reviewing the history of the grants from the commencement, and considering all the views that had been propounded. They began with the proposal put forward by the Board in 1816 to fix 8 annas as the Sunderbans rate per the bigha of 110 cubits or 55 yards, which proposal, however, had led to nothing. Next followed terms of 1819 which were approved by the Government on 19th March 1819, but were not promulgated till 24th March 1825. Those the Board summarised, remarking with regard to the assessment that the ultimate net rate was 8 annas “upon what may be presumed to have been the bigha of 100 (110) cubits measurement”. Those rules were in force till 1829 when, on the Board’s report, the Government amended them on 8th September. The Board set out the amended rules as advertised on 23rd March 1830. The ultimate rate was 8 annas per bigha, which, though not defined in the rules, was stated in the remeasurement clause of the kabulyat to be of 80 cubits or 40 yards. Hence, the Board remarked “that if the bigha formerly in use was, as has been supposed, one of 110 cubits, the change was in effect tantamount to nearly doubling the rate of assessment proposed by the Board in 1816”. These terms applied especially to grants of waste lands in the Sunderbans, but there were besides lands reclaimed from the Sunderbans, which had been resumed and assessed at what appeared to have been taken as the rates prevailing in the adjoining parganas, which were generally very low. It was not till 1844 that the Commissioner, Mr. Harvey, represented the anomaly of such lands being assessed at less than the Sunderbans grant rate, and thenceforward the Sunderbans rate of 8 annas per the 40-yard bigha was the rate fixed either immediately or ultimately upon all resumed Sunderbans lands open to permanent settlement. Nearly 23 years had elapsed since the rules came into force, but the scheme had proved a total failure. Clearances had been less than was anticipated and the revenue next to nothing: applications for a prolonged rent-free period had been numerous, grants had been repeatedly resumed for failure to cultivate, and the disinclination of parties to take up fresh grants was as great as ever. These facts and certain circumstances reported by the Collector of Jessore had induced the Board to reconsider the whole subject. The results in the resumed mahals had been markedly different. The Board summed up those results, showing that the assessment in those mahals had fairly stood; but they agreed with Mr. Bruce in holding that the resumed mahals were no criterion by which to

judge of the grants proper, since the former were generally small, all more or less cultivated prior to resumption and mostly adjacent to permanently-settled estates by the holders of which they had been reclaimed—in fact they bore little analogy to ordinary Sunderbans lands. The Board discussed his views and expressed their general agreement with them. Turning to the proposals put forward by the grantees, the Board pronounced the rates too low, there being nothing in the circumstances to warrant so great a reduction, though many of the grantees’ arguments, the failure of the existing system, and the Commissioner’s remarks regarding the rates current, all proved that a considerable reduction was necessary. The Government letter, dated the 6th August 1816, and the fact that many resumed lands had been measured in 110-cubit bighas, both proved in their opinion that the area of grants had been computed in 110-cubit bighas before 1830. The size of the bigha in grants subsequent to 1830 was little more than half the measure current between 1816 and 1830. Under those circumstances, it was to the grantee’s interest to retain grants during the free period only, and not afterwards: though it was true that, after the demand for security had been withdrawn, there had been a good deal of mere speculation. Cases of *bonâ fide* reclamation were the exception, and success, where it had been secured, had been entirely due to the peculiar advantages of particular grants.

252. Modifications proposed by the Board, 1853.—The Board pronounced it hopeless to look for the clearance of the Sunderbans so long as the existing rates were demanded. They, therefore, proposed revised rules with the following terms: (1) that grants should not exceed 10,000 bighas of 40 yards square (equal to about 3,200 acres) in order to check mere speculation, and the free period should be ten years; (2) that one-fourth should be cleared in five years on pain of forfeiture; (3) that one-fourth should be exempted from assessment as before; (4) that the remainder should be assessed at $\frac{1}{2}$ anna for ten years, then at 1 anna for five years, at 2 annas for the next five years, at 3 annas for five years more, and thereafter at 4 annas, the full rate; and (5) that the above rates should apply to the Sunderbans of the 24-Parganas and Jessore, the peculiar advantages of which were about on a par, while the corresponding rates in Bakarganj should be 25 per cent. higher on account of the superior advantages of the lands there. The 6th condition provided for the recovery of the revenue, the 7th for demanding security, if necessary, and the 8th indicated the procedure for obtaining grants, applications being ordinarily made to the Sunderbans Commissioner. They held that the old grants should be admitted to the

*The first rules, promulgated in 1825, had, as far as I can discover, special, if not sole, reference to the allotments in the 24-Parganas. It was the intention of the Government that the Sunderbans Commissioner should first settle the claims of the State in that district before proceeding east to Jessore and Bakarganj, and in fact Smelt’s operations were stopped by orders to that effect. The Board’s orders prohibiting the practice of giving leases for forests lands in Jessore were most strict until 1817; and though the prohibition was relaxed in that year as mentioned in paragraph 38, and the Collectors after that again granted leases for the jungle, yet they appear to have acted not upon a definite system, but to have given pattas or amainamas somewhat irregularly for lands within such and such boundaries, as in the case of Maulavi Abdullah mentioned in paragraph 73. For these reasons I cannot help thinking that the Board’s statements are mistaken. At any rate, the 110 cubit bigha was not generally current in the 24-Parganas, where the prevalent measure was the bigha of 80 cubits or 40 yards square. The 24-Parganas Sunderbans were first divided into allotments by Prinsep in 1822 and 1823, while those Jessore were not allotted out till 1829 or 1830 by Hodges. Prinsep’s bighas were all 40 yards square and so, too, were Hodges’. The grants in the 24-Parganas were made on Prinsep’s areas; hence it seems that the Board’s remarks, if correct as to Jessore and Bakarganj, cannot hold good for the grants in the 24-Parganas which, as the table in paragraph 248 shows, constituted more than three-fourths of the total number. To that extent, therefore, the considerations on which the rules of 1853 were based proceeded from a mistaken view of the circumstances. Smelt’s operations of 1816 strictly have no connexion with the subject of Sunderbans grants. They were directed to lands reclaimed with or without Hencokell’s pattas, and his assessment—8 annas per the 55 yards bigha—was imposed on lands that had been actually brought into cultivation and not on jungle lands.

benefit of the new rules, and proposed conditions of admission, while as to resumed mahals, all that the Board believed to be necessary was that their assessment should in future be regulated by the rates current in the neighbourhood, instead of the general rate of 8 annas, subject, however, to the maximum of 8 annas everywhere, and a minimum of 4 annas in the 24-Parganas and Jessore, and 5 annas in Bakarganj.*

253. Remarks by grantees on the Board's proposals.—The Government communicated the Board's proposals to Messrs. Begg and Rose, two of the grantees, at the desire of the others, and they were allowed to offer their remarks thereon. They objected to the limitation of the size of grants to 10,000 bighas as overriding the natural division of the country, and as being futile, since no restriction was placed on the number of grants a speculator might buy. Instead of the clearing condition recommended by the Board, they preferred one of clearing one-eighth of the area in six years to be strictly enforced. The Board's assessment was, they considered, not liberal enough and would not succeed. The Board's ultimate rate of 4 annas per 40-yard bigha was practically the same as the old rate of 8 annas per the 55-yard bigha, so that the apparent reduction was in reality very trifling; besides, since that rate was nearly double the revenue assessment on lands included in the Permanent Settlement, the grantees would still be at a disadvantage. The increased rate in Bakarganj was objectionable, because of the distance of the markets. Lastly, they urged that all grants should be publicly sold; Government would thereby get the full value of a grant favourably situated.

254. Modifications sanctioned by the Government, 1853.—The Government, after considering all these views and suggestions, announced its decision in its No. 306, dated the 9th April 1853, to the Board of Revenue. Reviewing briefly the rules of 1825 and their failure, the Government passed on to those of 1829, regarding which they took it as certain that the bigha in the former rules was of 110 cubits, and the bigha in the latter of 80 cubits, so that the assessment under the latter rules was nearly double that under the former. The 1829 rules had failed, and the Board's remarks and the position of affairs as to the grants were briefly recapitulated. The Governor stated Mr. Bruce's terms and contrasted them with the 1825 rules as to the 55-yards bigha; also the terms asked for by the grantees, comparing them with the rules of 1825 and 1829. The Board's remarks and terms were next considered and contrasted with the same rules, and the grantee's objections thereto were noticed. The paramount object of Government in devising the rules was declared to be the reclamation of the Sunderbans—a pestilential tract near Calcutta which afforded a home for wild animals and shelter to smugglers and pirates. The improvement of the revenue

way of secondary and altogether subordinate importance. Till then it had been thought that improvement of revenue might keep pace with the clearance of jungle, without materially impeding it, but that had proved to be fallacious. Increase of revenue would, of course, follow reclamation, but had been looked for too soon. That principle was now abandoned, and speedy reclamation was declared to be the paramount object, Government being, however, left free to impose a moderate assessment at some future time. Keeping that object in view, the Governor accepted the terms offered by the grantees with two modifications—(1) that conditions of progressive clearance should be insisted on, such as one-eighth of the area in five years, one-fourth in 10, one-half in 20, and three-fourths in 30 years; and (2) that the full assessment of 2 annas instead of being in perpetuity should be for 99 years, after which grants should be liable to reassessment on moderate terms, proprietorship and the right of settlement remaining with the grantees as in estates not permanently settled. Existing grantees would be allowed the option of throwing up their leases and taking fresh leases for 99 years under the new rules, lands already brought under assessment being subjected to the full rate of 2 annas. Where grants were resumed for failure, lands actually cultivated were to be settled separately with the cultivators on moderate terms not exceeding the maximum rate of 2 annas, so as not to cause desertion among the settlers; and the jungle remainder would be granted out fresh. The Governor did not consider the reasons sufficient for limiting grants to 10,000 bighas, nor for imposing a higher assessment in Bakarganj than in the 24-Parganas or Jessore, nor for demanding security. In the concluding paragraph of the letter, viz., paragraph 25, the case of resumed lands was considered. They comprised an area of 796, 286 bighas,† the whole of which, except four estates with an area of 40,692 bighas, had been assessed at 8 annas per the 40-yard bigha. The Governor sanctioned the course recommended by the Presidency Commissioner and the Board that in future settlements, instead of that uniform rate, the rates found to prevail in neighbouring zamindaris should be adopted, provided they in no case exceeded 8 or fell short of 4 annas.‡

255. Grant rules of the 24th September 1853.—Revised rules were drafted by the Sunderbans Commissioner in accordance with these instructions,§ and after amendment by the higher authorities were finally approved by the Government in its resolution No. 1803, dated the 24th September 1853,|| and published in the *Calcutta Gazette* of 8th October 1853, page 1385. As a very large number of the then grants were commuted under these rules, as others were forfeited and regranted under the same rules, and as numerous fresh grants were made under them, the rules of the 24th September 1853 govern by far the

* Presidency Commissioner to Sunderbans Commissioner, No. 154A, dated the 25th June 1853.

† A list of these was submitted with Sunderbans Commissioner's letter to Presidency Commissioner, No. 272, dated 1st July 1854.

‡ Presidency Commissioner to Sunderbans Commissioner, No. 106, dated the 6th May 1853. The restriction on the rate of assessment in resumed mahals was superseded in 1866—see paragraph 278.

§ Sunderbans Commissioner to Presidency Commissioner, No. 293, dated the 14th July 1853.

|| Presidency Commissioner to Sunderbans Commissioner, No. 277, dated the 26th October 1853.

great majority of Sunderbans grants. They are here set out in full:—

Rule I—Clause 1.—Applications for grants of waste land in the Sunderbans shall be ordinarily made to the Sunderbans Commissioner. Such applications shall be immediately entered in a register to be kept for the purpose in his office, and, after being advertised for one week in the *Calcutta Gazette*, shall be submitted through the Revenue Commissioner for the orders of the Board of Revenue. In the absence of the Sunderbans Commissioner from Alipur, such applications will be received either by the Revenue Commissioner of the Jessore Division or by the Board of Revenue.

Clause 2.—Should there be more than one applicant for the same grant, it shall be put up to sale after a further advertisement in the *Calcutta Gazette* of fifteen days, and the application of the highest bidder shall be submitted as above provided.

Rule II.—When an application for a grant of land has received the sanction of the Board of Revenue, a patta in the following form* shall be drawn out on vellum or parchment, and submitted for registry in the office of the Board of Revenue.

Form of patta.—Under the orders of the Board of Revenue, dated 18, this patta is granted to for himself, his heirs, executors, and assigns for that portion of waste land in the Sunderbans estimated to contain bighas, described as lot No. of Captain Hodge's map, and bounded as follows:—

On the North—

On the East—

On the South—

On the West—

The terms of this grant are—

Firstly, that one-fourth of the entire grant shall be for ever exempted from assessment in lieu of an allowance for the sites of houses, for water-courses, creeks, nullahs, tanks, roads, the space required for the construction of embankments, dams, etc., and for irreclaimable waste land.

Secondly, that the remaining three-fourths of the grant shall be held free of assessment for twenty years from the 1st May, and shall afterwards, be subject to an annual revenue charge at the following rates, namely,—

From the beginning of the 21st to the end of the 30th year, half-an-anna the bigha of 1,600 square yards.

From the beginning of the 31st to the end of the 40th year, one anna the bigha of 1,600 square yards.

From the beginning of the 41st to the end of the 50th year, one anna and a half the bigha of 1,600 square yards.

From the beginning of the 51st to the end of the 99th year, two annas the bigha of 1,600 square yards.

Thirdly, that at any period after the expiration of the 20th and before the expiration of the 30th year, the Government may make a survey and measurement, and in like manner the grantee may require that a survey and measurement be made, with the view of ascertaining the exact area of the lands contained in the grant, and that the revenue conditioned in the preceding article shall thenceforth be calculated upon the area ascertained by such survey. The expense of such survey shall be defrayed by the party at whose instance the survey may be made. Provided that until such survey be made, or if no such survey be made, the revenue conditioned in the preceding article shall be calculated on the area specified in the first clause of this patta.

Fourthly, that after the 99th year, the grant shall be liable to survey and resettlement, and to such moderate assessment as may seem proper to the Government of the day, the proprietary right in the grant, and the right of engagement with Government remaining to the grantee, his heirs, executors or assigns under the conditions generally applicable to the owners of estates not permanently settled; and the revenue equal to the amount annually paid from the 51st to the 99th year shall be paid annually by the grantee, his heirs, executors or assigns, until such survey and resettlement or reassessment as is described above be effected.

Fifthly, that one-eighth of the grant shall be declared and rendered fit for cultivation by the expiration of the 5th year from the 18.

That one-fourth of the grant shall be cleared and rendered fit for cultivation by the expiration of the 10th year from the 18.

That one-half of the grant shall be cleared and rendered fit for cultivation by the expiration of the 20th year from the 18.

That three fourths of the grant shall be cleared and rendered fit for cultivation by the expiration of the 30th year from the 18.

That on failure of all or any of these four conditions (the fact of which failure shall after local enquiry conducted by the Sunderbans Commissioner or other officer be finally determined by the Board of Revenue), the entire grant shall be resumed and the grantee shall forfeit all right and interest in the lands, both those which may be yet uncleared, and those which may have been cleared and brought into cultivation.

Sixthly, that the revenue payable under the third and fourth terms of the patta shall be paid into such treasury as the Government may determine, or to such Collector or other Government officer as may be appointed by the Government to receive it, on the dates specified on the reverse of the kabulyat or counterpart of this patta, and that in default the revenue shall be recoverable from the grantee, his heirs, executors or assigns by the process

* The Board ordered in 1854 that the patta should be executed in English and Bengali at the desire of the grantees (Presidency Commissioner to Sunderbans Commissioner, No. 18, dated the 23rd January 1854).

that now is or hereafter may be in force for the recovery of arrears of Government revenue.

Seventhly, that the grantee shall not in any way interfere with the passage of boats through any open river or nullah traversing his grant, and shall allow a sufficient space along the banks of all such rivers or nullahs for towing paths.

Rule III—Clause 1.—Grantees or their representatives holding grants or leases in perpetuity under the rules hitherto in force shall have the option of throwing up their existing leases and taking other leases according to these rules, terminable in 99 years from the date on which their existing leases commenced.

Clause 2.—Grantees so electing to commute their present grants for settlements terminable in 99 years shall pay revenue at the rate of 2 annas per bigha from the commencement of the current year for all lands already brought under assessment to Government.

Clause 3.—In cases in which a rent-free term was originally granted for twenty years, and that term having expired, a further rent-free term has been granted, the grantee, if he commutes as above, shall waive all claim to continued rent-free possession, and shall pay half-an-anna per bigha on the whole of his grant (after deducting the prescribed one-fourth) from the beginning of the ensuing year, and one anna per bigha from the commencement of the 31st year from the date of the original lease, and thenceforward according to the scale prescribed in rule II.

Clause 4.—In cases in which a rent-free term was granted for twenty years, and that term not having expired, a further rent-free term has been promised, the grantee, if he commutes as above, shall waive all claim to such extended rent-free term, and shall pay revenue for the lands of his grant from the commencement of the 21st year according to the scale prescribed in rule II.

Clause 5.—Persons desirous of availing themselves of the option given by this rule, must signify their desire by application to the Sunderbans Commissioner within one year from the date of these rules, that is to say, on or before the 24th day of September 1854.

Rule IV.—When a grant is resumed under article 5 of the terms of the lease, the lands found to be actually under cultivation shall be measured and settled with the cultivators, or under-tenants, as the case may be, at such rates as may appear equitable to the Revenue Authorities, reference being had to the circumstances under which the cultivators or under-tenants were located; and in the event of a new lease being given for the resumed grant, the lands so settled with the occupants shall be included in, or excluded from, the lease, as may be deemed most suitable. Provided, however, that, when cultivated lands are included in a lease, the terms of assessment in Rule II shall be applicable only to

the uncleared lands, and separate provisions shall be made for the assessment of the cultivated land at the discretion of the Board of Revenue.

CHAPTER XX.

SUNDERBANS GRANTS AND THE RULES OF 1853 AND 1853-62.

256. Carrying into effect of the new rules.—The promulgation of the revised rules gave a fresh impetus to Sunderbans operations, which had, in a great measure, been held in abeyance pending their issue. Uma Kanta Babu proceeded to carry them out in their three directions of commutations, assessments, and new grants. At first his treatment was careful and proper, but afterwards he appears to have become confused amid the variety of claims put forward by grantees and others, and to have blundered strangely; and the mistakes were often due to his neglecting to report the cases to the Presidency Commissioner as he had been directed to do in all cases,* so that in many instances they passed unnoticed till Mr. Reilly, his successor, by a methodical investigation, ascertained them and reported them for correction. It is unnecessary to notice the errors, except in so far as they served to elicit principles or explanations of rules and orders. The extension of the new rules to resumed mahals was a matter where Uma Kanta Babu fell into serious perplexities. It will be noticed in the next chapter. As regards grants proper, the following are the important points regarding commutation and assessment where confusion arose and fresh instructions were laid down.

257. Instructions regarding commutation.—Rule III prescribed the method of commutation, and the majority of grantees availed themselves of the option held out, but the determination of the assessment was not unattended with difficulties. As regarded the rate at which the assessment was to be made where grants under the former rules were paying 2 annas the bigha or more, Uma Kanta Babu failed to understand the rule, and the Presidency Commissioner was frequently obliged to revise, correct, and remand the proceedings.† Much of the difficulty was due to uncertainty as to when the grants were to be considered to have commenced. It had been laid down in 1835 that the date of sanction was to be adopted as the initial date, but Uma Kanta Babu does not appear to have been aware of that order, and in several cases altered the initial dates. On inquiry, it was found that the original leases had been in many instances executed some time after the date of the grant, so the Board laid it down in the case of lot 53, which had been granted in 1831, but where the kistbandi was executed in 1834, that the latter was the

* Presidency Commissioner to Sunderbans Commissioner, No. 25, dated the 25th August 1854; also No. 148, dated the 19th January 1855.
† Presidency Commissioner to Sunderbans Commissioner No. 202, dated the 8th November 1853; also No. 9, dated the 16th January 1854.

initial date;¹ and they decided in 1856 that the free period ordinarily ran from the date of the patta, and retrospective effect was to be given to this construction²—one result of which was that the grantees escaped the payment of considerable sums, which were due according to the order of 1835.³ Other difficulties arose on the meaning of the words of the rules, and were referred to the Board or Government for an authoritative explanation in 1856. Thus, as to the words “all lands already brought under assessment to Government” in Rule III, Clause 2, it was laid down that after the expiry of the free term, lands *ipso facto* came under revenue, the grantee being bound to pay, and no steps being necessary on the part of Government.⁴ The scope of the word “assessment” in the above quoted passage was thrown into doubt by some previous demi-official correspondence, but on reference made, the Government decided that the literal meaning was correct and the word included lands paying revenue at 2, 4, 6, or 8 annas.⁵ With respect to the words “from the date on which the existing leases commenced” in clause 1 of the same rule, the Board decided that if no engagement had been taken from the grantee previous to his signing the kabulyat and kistbandi, the date of those documents, that is, the date of the patta, should be the date in question. The promise referred to in clause 4 of the same rule might be an implied one, but the Board would not lay down any general rule, leaving each case to be dealt with on its own merits.⁶ The words “from the beginning of the ensuing year” in clause 3 had been held by the Board in 1855 to mean the 1st May 1854, but in 1856, after the period of commutation had been extended in the case of lot 73, they decided that the words meant the commencement of the year next ensuing after commutation, whenever that might be,⁷ but on Mr. Reily’s representing that through delays in commutation that construction would necessitate revisions, and the refund of revenue already paid,⁸ and on the Presidency Commissioner’s strongly commenting on the unsoundness of making the date a movable and not a fixed one,⁹ the Board decided that the “current year” in the rule meant 1853-54, and the ensuing year 1854-55, thus making the date a fixed one and reverting to the first interpretation.⁹

258. **Grants commuted.**—Commutated leases were granted for the following lands during

the years 1854-56, the applications having in all cases been made in time—lots 2, 3, 6, 7, 9, 10, 18, 21, 22, 27,¹⁰ 28, 30, 31 (jungle portion only), 32, 33, 36-40, 52, 53, 56, 57, 61-69, 72 (four portions), 75-77, 81, 82, 86, 87, 91, 92, 98, 101, 105, 108, 136, 137, 166 (four portions), 216, and 225;¹¹ also for the grant portions of Gulsakhali¹² and Kukua; for Harihipatan, Andarmanik, Munkiya and Godardanga,¹³ Nalbuniya and Amtali; and lots 1-3 (Khao-liya) Barisal. In the case of lot 73, the application was made after the expiry of the time allowed, but commutation was allowed, the grantees being country folk, who were unacquainted with the limitation.¹⁴ The settled land of lot 108 was, in consideration of its exposed situation, allowed an abatement of from 8 to 2 annas and a lengthened period of 99 years.¹⁵ Gyanpara, which Mr. Gomess’s survey of 1852-53 showed to comprise 1, 12, 761 bighas instead of Mullin’s absurd area of 20,000 bighas, was admitted to the benefit of commutation, three-fourths of the old area being assessed at 2 annas.¹⁷ Similarly in Kalamegha, for which the Collector of Bakarganj had given an amalnama in 1844-45, the cultivation was assessed, and the whole (cultivated and jungle), 45,012 bighas, disposed of as a grant.¹⁸ In Tushkhali, the farmer Debnath Rai had received express permission to clear the adjacent jungle in 1839, and had been reclaiming. He applied for a patta under the new rules. The area was surveyed by Mr. Gomess in 1854-55 and found to contain 83,493 bighas of unsettled land (of which 23,743 bighas were cultivated); this was settled with him under the new rules, but Mr. Reily disapproved and the Presidency Commissioner quashed all the proceedings in 1855, on the ground that Debnath as farmer had no right to the benefit.¹⁹ In appeal, the Board (of which Mr. Dampier was a member) explained that the Bakarganj forest not having been lotted out, no formal grant had been feasible, but that Debnath got the land on the same terms as authorised grantees, and was to all intents and purposes a real grantee. They, therefore, admitted him to the benefits of the new rules²⁰ for all the jungle land north of the Saplenja Don within defined boundaries and a patta was given him in 1857 for those lands under the name Debnathpur, no allotment number being possible since Mr. Gomess’s survey of the forest had not been carried so far at that time.²¹ But a further claim by him to a lease of the land south of that Don

¹ Presidency Commissioner to Sunderbans Commissioner, No. 27Ct., dated the 6th February 1857.

² Presidency Commissioner to Sunderbans Commissioner, No. 384 dated the 30th April 1856—see also Presidency Commissioner to Sunderbans Commissioner, No. 49Ct., dated the 10th March 1865.

³ Sunderbans Commissioner to Presidency Commissioner, No. 173, dated the 5th May 1865.

⁴ Presidency Commissioner to Sunderbans Commissioner, No. 25, dated the 16th May 1856 transmitting Bd. Rev. to Presidency Commissioner No. 208, dated the 9th *idem*.

⁵ Presidency Commissioner to Sunderbans Commissioner, No. 38, dated 2 (sic., 22?) May 1856.

⁶ Presidency Commissioner to Sunderbans Commissioner, No. 25, dated the 16th May 1856.

⁷ Sunderbans Commissioner to Presidency Commissioner, No. 213, dated the 27th May 1856.

⁸ Presidency Commissioner to Sunderbans Commissioner, No. 58, dated the 9th June 1856.

⁹ Presidency Commissioner to Sunderbans Commissioner, No. 108, dated the 29th July 1856.

¹⁰ Revised Presidency Commissioner to Sunderbans Commissioner, No. 65, dated the 12th June, and No. 18Ct., dated the 23rd July 1857.

¹¹ Presidency Commissioner to Sunderbans Commissioner, No. 192, dated the 15th March 1856.

¹² As to lot 167, see Presidency Commissioner to Sunderbans Commissioner, No. 28, dated the 4th February 1853; No. 109, dated the 29th July 1856; No. 104Ct., dated the 27th November 1857; and No. 60, dated the 10th January 1858.

¹³ Sunderbans Commissioner to Presidency Commissioner, No. 440, dated the 9th January 1957.

¹⁴ Presidency Commissioner to Sunderbans Commissioner, No. 52Ct., dated the 29th September 1857.

¹⁵ Presidency Commissioner to Sunderbans Commissioner, No. 185, dated the 9th December 1855.

¹⁶ Presidency Commissioner to Sunderbans Commissioner, No. 24, dated the 3rd June 1857.

¹⁷ Presidency Commissioner to Sunderbans Commissioner, No. 144, dated the 18th January 1855; No. 70, dated the 17th June 1856; and No. 45, dated the 30th June 1857.

¹⁸ Sunderbans Commissioner to Presidency Commissioner, No. 464, dated the 25th February 1857, and Presidency Commissioner to Sunderbans Commissioner No. 4Ct., dated the 11th July 1857.

¹⁹ Presidency Commissioner to Sunderbans Commissioner, No. 217, dated the 29th December 1855.

²⁰ Presidency Commissioner to Sunderbans Commissioner, No. 267, dated the 16th February 1856.

²¹ Presidency Commissioner to Sunderbans Commissioner, No. 69, dated the 17th June; No. 209, dated the 24th October; and No. 14Ct., dated the 22nd December 1856; and No. 107Ct., dated the 28th November 1857.

was refused by the Board.¹ Other mahals were allowed a modified commutation, as Nilganj and Tiyakhali.

259. Extensions of clearance periods.—

The admission of grants to the easy terms of the new rules did away for a time with the demand for extensions. The change had already been inaugurated of extending merely the confiscation period without touching the revenue stipulations, and, after the issue of the revised rules, that was the invariable practice, it being so necessitated by the enforcement of gradual clearances long before the free period expired. The new shape which the bestowal of extensions took was to suspend the penalty for a year or two to enable the grantee to come up to the proportion required, as was done in lots 2, 10, 11, 12, 28, 37, 38, 105, 136,² and others.

260. Resumptions, 1853-67.—During the first two years after the promulgation of the new rules, the penalty of resumption was not rigidly enforced, but from 1856 under Mr. Reilly a stricter practice appears to have obtained. In 1859 Government ordered that the clearance conditions should be always enforced, except in extraordinary cases, in order to promote the reclamation of the Sunderbans.³ The resumptions comprised lots 58 and 90 in 1854; lots 48 and 49⁴ in 1855; lots 23-26, 78⁵ and 84; lots 4-7 of Khaoliya Barisal, Pachakuraliya, Chandokhali and Kachupatra⁶ in 1856; lots 7, 29, 36, 39, 57 (second portion), 87, 122,⁷ 137, 211 and 212 in 1857; lots 18, 27 and 168, and Karaibariya in 1858; lots 11, 99, 105, 109-115, 123, 138, 140, 142 and 143 in 1859; lots 59, 106, 107 and 136 in 1860; lot 227 in 1861; lots 67, 90, 121, 124-126, 163 and 172 in 1862; lots 25, 63, 242, and No. 7 Khaoliya Barisal in 1864; lots 15, 122 (north part), 135, 137 and Kukuriya Mukuriya in 1865; lots 110-114 and 139 in 1866; and lots 11 and 117 in 1867.

261. Interests of the Salt Department.—

The reorganization of the Salt Agency, which was under discussion, was finally negatived by the Government in 1854, and no general provision regarding salt was required in the grants, but lots 127, 128, 131, 132 and 149-162 were reserved by the Board for excise manufacture.⁸ Government had relinquished the salt lands in the old grants, and, none being reserved in the new, the Salt Agent was left to obtain his lands by ordinary lease, or

acquire them under Regulation I of 1824,⁹ though the Sunderbans Commissioner was instructed always to consult him prior to bestowing new grants.¹⁰ The Salt Agent applied for lot 148, and asked for no restrictions beyond the insertion of a special salt clause, explaining that, as his manufacture was carried on only along the banks and a breadth of 100 feet would suffice, reclamation and the manufacture could go on together.¹¹ The following clause was then prescribed in 1856: "Provided that in the event of the Salt Department requiring to occupy any of the lands within the grant, such lands shall be given up on demand, the revenue derivable therefrom being remitted by the Government."¹² It was to be inserted in all leases except those in Bakarganj, where there was no likelihood of the manufacture ever being renewed.¹³ In 1860 the restriction on the abovementioned eight lots was withdrawn, and they became available for grants.¹⁴

262. New grants and regrants, 1853-62.—

On the publication of the rules, the Sunderbans Commissioner proceeded to sell the grants, and the favourable character of the rules once more stimulated capitalists to embark in Sunderbans reclamation. In the case of resumed grants being offered for sale, the Board directed in 1853 that the whole of the lands should be sold, both cultivated and uncultivated, the rights of the abadkari tenants being expressly safeguarded.¹⁵ This overruled the principle laid down in 1848 as mentioned in paragraph 202. Lots 43, 59, 99, 104, 110-115, 123, 129, 130, 135, 138, 140, 142, 143, 148, 163, 168 and 226¹⁶ were granted out in 1853; in 1854, lots 13, 14, 134, 164, 166, 223 and 227; in 1855, lots 48, 49, 58, 90 and 172 (?); in 1856, lots 23, 25, 78, 87, 121, 124-126, Halliday Island,¹⁷ and Lata Chapli; in 1857, lots 241-251 and Khaoliya Barisal lots 4-7, Pachakuraliya, Chandokhali, Kachupatra and Kakehira Char; in 1858, lots 7, 8, 15, 16, 29, 36, 39, 57, 87, 116, 118, 120, 122, 137, 211 (two portions), and 229-232; in 1859, lots 85 (?), 195, 196, and 210 (?); in 1860, lots 167, 168 (two parts) and 223 (?); and in 1861, lots 216 and 240. In April 1862, the further grant of waste lands was stopped, pending the issue of the new waste land rules.¹⁸ Several of the lots, such as Nos. 23 and 25, were keenly competed for and realized a large price. The proceeds of the sales constituted a large fund and were devoted to the improvement of Sunderbans estates.¹⁹ The total realizations were reckoned at Rs. 1,56,066 in 1862, namely,

1857. ¹ Presidency Commissioner to Sunderbans Commissioner, No. 69, dated the 17th June 1856, and No. 40Ct., dated the 24th September

² Presidency Commissioner to Sunderbans Commissioner, No. 41Ct., dated the 31st July 1858.

³ Presidency Commissioner to Sunderbans Commissioner, No. 51Ct., dated the 2nd December 1859.

⁴ Presidency Commissioner to Sunderbans Commissioner, No. 231, dated the 28th April 1855.

⁵ Presidency Commissioner to Sunderbans Commissioner, No. 6, dated the 3rd May 1856.

⁶ Presidency Commissioner to Sunderbans Commissioner, No. 157, dated the 15th September 1856.

⁷ Presidency Commissioner to Sunderbans Commissioner, No. 103Ct., dated the 27th November 1857.

⁸ Presidency Commissioner to Sunderbans Commissioner, No. 85, dated the 19th May 1854, and No. 145, dated the 27th July 1854.

⁹ Presidency Commissioner to Sunderbans Commissioner, No. 171, dated the 14th November 1855.

¹⁰ Presidency Commissioner to Sunderbans Commissioner, No. 212, dated the 24th December 1855.

¹¹ Salt Agent to Sunderbans Commissioner, letters, dated the 30th November 1855, and 4th and 25th March 1856.

¹² Presidency Commissioner to Sunderbans Commissioner, No. 28, dated the 20th May, and 114, dated the 30th July 1856; also No. 31Ct.

dated the 14th February 1857.

¹³ Presidency Commissioner to Sunderbans Commissioner, No. 56, dated the 5th and No. 93, dated the 28th June 1856.

¹⁴ Presidency Commissioner to Sunderbans Commissioner, No. 103Ct., dated the 2nd March 1860.

¹⁵ Presidency Commissioner to Sunderbans Commissioner, No. 67, dated the 30th March 1853.

¹⁶ The portion Karamjal was included in the grant in 1857—Presidency Commissioner to Sunderbans Commissioner, No. 120Ct., dated the 15th December 1857.

¹⁷ An amalgam for the island had been given to certain pilots in 1846, but was cancelled—Presidency Commissioner to Sunderbans Commissioner, No. 238, dated the 1st January 1856, and No. 354, dated the 12th April 1856.

¹⁸ Board of Revenue circular order No. 27, dated 1st April, and 31, dated the 28th June 1862.

¹⁹ See paragraph 301.

Rs. 1,21,000 in the 24-Parganas, Rs. 18,371 in Jessore, and Rs. 16,695 in Bakarganj.¹ Lot 44 was assessed ultimately at 2 annas, and incorporated with taluk Bantia.²

263. Settlement on expiry of free term.—Uma Kanta Babu's practice of measuring grants on the expiry of the free term and assessing them *de novo* was dropped, and the execution of dowls at that stage was pronounced useless.³ A survey was not indispensable, but it was sufficient to calculate the revenue on Hodges's area, and where dowls and kabulyats had been executed and possession given, nothing further was necessary.⁴ The notion, however, that something was required on the expiry of the free term to give efficacy to the revenue provisions still held its ground, and the practice of taking dowls was observed for more than twenty years afterwards. Grants as soon as made were to be brought on to the Collector's rent-roll.⁵

264. Subsidiary rules, 1856-67.—In 1859 Government ordered that the words "properly embanked" should be inserted in future leases where embankments were necessary.⁶ It had been questioned whether Government could resume a grant for non-clearance, if the right were not exercised at the proper time. It was decided in 1856 that if the period expired and the grant commenced to pay revenue, the right was barred, otherwise apparently delay did not destroy it. Commutation made no change in those respects.⁷ The rule requiring a survey before a grant could be made was relaxed in 1867, Government declaring that a boundary road might be cut all around beforehand, and pillars erected by the grantee within three months after getting possession.⁸ Government directed in 1865 that no grant should be sold for arrears of revenue without its state as regarded clearance being ascertained by a reference to the Sunderbans Commissioner.⁹

CHAPTER XXI.

RESUMED MAHALS AND THE RULES OF 1853 AND 1853-62.

265. Effect of the 1853 rules on the resumed or excluded mahals.—When passing the new rules for grants in 1853, the Governor had sanctioned a relaxation of the assessment upon resumed mahals, namely, that in future they should be assessed at current rates not exceeding 8 annas and not falling below 4 annas.¹⁰ A list of these mahals, which, in

consequence of their being expressly denied the benefit of the grant rules, were spoken of as "excluded mahals," was prepared by Uma Kanta Babu and submitted to the higher authorities in 1854.¹¹ But a large body of the holders of resumed lands in the Sunderbans petitioned the Board in August 1854, representing that the indulgent rates conceded to grantees by the 1853 rules bore with great hardship on them, inasmuch as their raiyats were deserting, being tempted by the lower terms which the grantees were able to offer; they declared that they could not continue to pay the 8-anna rate, and they asked for some consideration. The Board refused to make any reduction in the case of lands that were cultivated when settled, but thinking it might be necessary to revise the prospective assessment fixed in perpetuity on jungle lands, they called for a report on the subject from the Sunderbans Commissioner.¹² Uma Kanta Babu made no remarks on the questions raised by the Board, but merely sent up a list of 70 resumed mahals in February 1855.¹³

266. Detailed Sunderbans map, 1855.—About the same time that the landowners petitioned, the Government desired to know what the state of the Sunderbans then was, and what was the proportion between the cultivated and uncultivated land. The Presidency Commissioner directed Uma Kanta Babu in September 1854 to have a plan of the Sunderbans drawn up, each district in one sheet, exhibiting the names, numbers and state of cultivation of each of the lots.¹⁴ The map—though pronounced most urgent—was not completed till the end of 1855.¹⁵

267. Terms of assessment revised in the resumed or excluded mahals, 1855-56.—Meanwhile the Presidency Commissioner forwarded the list, remarking that it showed no strict rule had been followed in the settlement of the jungle lands of those estates. The free period varied from one to twenty years, then followed a *rasad* of two or three years, after which the full assessment of 8 annas was imposed. It seemed that in some recent cases the new rules had been applied to such jungle lands. He was in favour of granting the petitioners some indulgence, and suggested proposals for giving the jungle lands in the estates the benefits of the new rules. The Board, which then consisted of Messrs. Ricketts, Dampier and Dunbar, took some time to deliberate, and submitted their report to Government in January 1856. They were divided in opinion, Mr. Dunbar desiring to offer liberal concessions with the object of having the forest reclaimed. The decision of Government was recorded in its No. 105, dated the 1st February 1856. The

¹ Sunderbans Commissioner to Presidency Commissioner, No. 130, dated the 10th September 1862.

² The opposition of the talukdars had prevented its reclamation. Presidency Commissioner to Sunderbans Commissioner, No. 194 dated the 4th October 1856.

³ Presidency Commissioner to Sunderbans Commissioner, No. 251, dated the 31st January 1856.

⁴ Presidency Commissioner to Sunderbans Commissioner, No. 22, dated the 10th and No. 25, dated the 16th May 1856.

⁵ Presidency Commissioner to Sunderbans Commissioner, No. 146, dated the 30th August 1856.

⁶ Presidency Commissioner to Sunderbans Commissioner, No. 58Ct., dated the 29th December 1859.

⁷ Presidency Commissioner to Sunderbans Commissioner, Nos. 34 and 35, dated the 22nd May 1856.

⁸ Presidency Commissioner to Sunderbans Commissioner, No. 177, dated the 30th October 1867.

⁹ Presidency Commissioner to Sunderbans Commissioner, No. memorandum No. 214, dated the 23rd October 1865, and No. 37Ct., dated the 19th March 1866.

¹⁰ See paragraphs 254.

¹¹ Sunderbans Commissioner to Presidency Commissioner, No. 272, dated the 1st July 1854.

¹² Presidency Commissioner to Sunderbans Commissioner, No. 82, dated the 28th October 1854.

¹³ Sunderbans Commissioner to Presidency Commissioner, No. 55, dated the 5th February 1855.

¹⁴ Presidency Commissioner to Sunderbans Commissioner, No. 29, dated the 1st September 1854.

¹⁵ Sunderbans Commissioner to Presidency Commissioner, No. 539, dated the 18th December 1855.

Lieutenant-Governor, agreeing with the majority—Messrs. Ricketts and Dampier—held that there was no necessity for a general reduction of the assessment in resumed mahals, since these lands were usually more favourably situated than the mass of Sunderbans lands, having been selected by the people themselves on account of their proximity to zamindari lands or for other good reasons: but as regarded other lands differently situated, where there was reason to believe that they were likely to be affected by the lower assessment obtaining in grants, the Lieutenant-Governor decided that where the original abadkars were still in possession, the rate should be decreased to 4 annas; and in resumed lands, which were entirely surrounded (if any such existed) by mahals assessed at a maximum of 2 annas, the assessment should be reduced to the same level; but in all cases local inquiries were to be made. In the case of lands appertaining to resumed mahals which were waste at the period of settlement, the assessment should be revised uniformly, according to the second clause of the new leases. In sanctioning these rules, he enjoined, however, that in all cases the reduction of the existing assessment should be conceded only on condition that the perpetual leases on which the lands in question were then held should be surrendered, since he conceived it to be very desirable that those parts of the Sunderbans territory which were originally usurped should be liable to resettlement at a future day equally with the larger area which was embraced by the grants.¹

268. Results of these orders.—The result of these orders was to rescind the rate of 8 annas which Mr. Harvey had uniformly established, and to make local circumstances the criterion for determining the assessment. A reduction was permitted, if necessary, in all kinds of lands. As mentioned in paragraphs 167 and 168, several settlements had been made in perpetuity. Such settlements were now prohibited, and the duration in all cases was to be temporary, but in several cases² the period was, as in Sunderbans grants, fixed at 99 years.

269. Claims to commutation in resumed mahals, 1854-55.—There was, however, a general impression among the landowners that the grant rules were intended for lands of every description, and numerous applications were sent in for commutation. Uma Kanta Babu at first acted rightly, and refused them on the ground that the lands were either resumed mahals or lay outside Hodge's Sunderbans boundary. But towards the end of 1854 he appears to have modified his views, and considered that lands which fell within that boundary were admissible to the benefit of the rules, even though they were resumed

or "excluded" mahals. Thus, he allowed commutation in lots which had been incorporated with patitabadi mahals, such as Nos. 17, 20, etc.; in resumed estates which composed lots 216-220, such as Khaliya, Hariya, etc.; and in other resumed estates falling inside the boundary, such as Gulsakhali. Some of Henckell's talukdars applied for admission, and commutation was allowed in Pranpur by the Presidency Commissioner, on the ground that it was reclaimed land³ so also in Ramzannagar⁴ and Atliya.⁵ But when commutation was recommended in Ballabhpur, Mr. Stainforth, the Presidency Commissioner, noticing its circumstances, refused, since it was one of the mahals excluded by paragraph 25 of the Government orders.⁶ In the case of not a few Sunderbans mahals, however, Uma Kanta Babu had commuted the terms and bestowed fresh pattas, either without the previous sanction declared to be indispensable, or in cases which were not entitled to the benefit of the grant rules. Such irregularities were detected in 1855, and much of Mr. Reily's time for two years was occupied in rectifying the errors, which frequently involved serious diminutions of land revenue. It had been ordered in 1853 that on the presentation of applications for commutation, immediate information should be sent to the Collector with the request that, pending the adjustment of the settlement, he would receive payment of the revenue according to the new rules.⁷ A reduced revenue was thus being paid by the mahals which had been improperly admitted to commutation, and when the irregular proceedings were quashed and the revenue restored to its former amount, a sum of arrears became due, which the Board allowed to be liquidated by instalments during one or two years.

270. Claims to commutation in jungle mahals in Bakarganj, 1854-57.—The absence of a detailed survey in the Bakarganj district had rendered the application of the grant rules almost inoperative, and the question arose in 1854 whether lands there, especially in pargana Salimabad, were entitled to commutation under the new rules, the talukdars of Patikhali, Panchakaran, Debraj, Dhuliganti, Harganti, Nazirdiya, and Madardiya having applied to commute.⁸ Commuted pattas were given for the first three and were confirmed by the Board in 1855, the free term remaining 15 years as before.⁹ In the case of Gulsakhali, the Board laid it down in 1855 that the new rules applied only to grants and not to resumed estates.¹⁰ But resumed mahals, especially in pargana Salimabad, were of various kinds and lay both within and without the Sunderbans forest; and Mr. Reily suggested that the fact whether the lands lay without or within the Sunderbans boundary should be taken as the criterion for deciding claims to commutation, only those within having a reasonable claim.¹¹

¹ Presidency Commissioner to Sunderbans Commissioner, No. 262, dated the 12th February 1856.

² E. g., Tarabuniya. Sunderbans Commissioner to Presidency Commissioner, No. 508, dated the 5th December 1855.

³ Presidency Commissioner to Sunderbans Commissioner, No. 17, dated the 22nd August 1854.

⁴ Presidency Commissioner to Sunderbans Commissioner, No. 18, dated the 22nd August 1854.

⁵ Presidency Commissioner to Sunderbans Commissioner, No. 16, dated the 22nd August 1854.

⁶ Presidency Commissioner to Sunderbans Commissioner, No. 214, dated the 24th December 1855—See paragraph 254 above.

⁷ Presidency Commissioner to Sunderbans Commissioner, No. 279, dated the 27th October 1855.

⁸ See Sunderbans Commissioner to Presidency Commissioner, No. 273, dated the 11th July 1856.

⁹ Presidency Commissioner to Sunderbans Commissioner, No. 210, dated the 16th April 1856.

¹⁰ Board of Revenue to Presidency Commissioner, No. 136, dated the 16th March 1856.

¹¹ Sunderbans Commissioner to Presidency Commissioner, No. 37, dated the 16th February 1856.

The Presidency Commissioner held that the new rules did not apply to resumed estates, whether within or without the boundary. He informed Mr. Reily that Government could not demand a higher rate than was specified in the pattas, and that, if none were mentioned, the assessment might be made at the pargana rates.* The assessment was not to be fixed at 8 annas merely because that had till then been the uniform rate, but it might be reduced according to local circumstances.† The commuted leases were then cancelled and the mahals were settled

agreeably to local rates, some at 8, some at 6, but most at 7 annas, for a period of 99 years. Commutation had also been carried out in Khondkarber, Baintala and Manikkhola, but the Board disallowed it, expressly declaring that resumed mahals acquired no special character by being comprised within the Sunderbans boundary.‡ The resettlement in these mahals was, however, made at 2 annas.§ In the six chaks—Phulhata, etc.—the farmer was pronounced entitled as abadkar to the benefit of the 1853 rules.||

*Presidency Commissioner to Sunderbans Commissioner, No. 10, dated the 5th May and No. 89, dated the 28th June 1856.

†Presidency Commissioner to Sunderbans Commissioner, No. 106, dated the 25th July and No. 133, dated the 21st August 1856.

‡Sunderbans Commissioner to Presidency Commissioner, No. 387, dated the 10th November 1856, and Presidency Commissioner to Sunderbans Commissioner, No. 306, dated the 24th April 1857.

§Sunderbans Commissioner to Presidency Commissioner, No. 16, dated the 22nd May 1857.

||Presidency Commissioner to Sunderbans Commissioner, No. 286, dated the 20th January 1857.

APPENDIX (a).

Government Estates of the Khulna Collectorate under Resettlement of Land Revenue.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
1	164	Khas Mahal Lakshminathpur and others.	1. Lakshminathpur (Bara), J. L. No. 171, P. S. Kaliganj. 2. Parulgachha, J. L. No. 175, P. S. Kaliganj. 3. Jharurkhamar, J. L. No. 174, P. S. Kaliganj. 4. Ubbakur, J. L. No. 170, P. S. Kaliganj. 5. Mautila, J. L. No. 172, P. S. Kaliganj. 6. Kuslia, J. L. No. 178, P. S. Kaliganj. 7. Sripur, J. L. No. 180, P. S. Kaliganj. 8. Mukunda Madhusudanpur, J. L. No. 227, P. S. Kaliganj. 9. Thekra, J. L. No. 50, P. S. Kaliganj. 10. Nengi, J. L. No. 231, P. S. Kaliganj. 11. Bejua, J. L. No. 229, P. S. Kaliganj. 12. Faridpur, J. L. No. 230, P. S. Kaliganj. 13. Bansdaha, J. L. No. 215, P. S. Kaliganj. 14. Fatepur, J. L. No. 221, P. S. Kaliganj. 15. Tentulia, J. L. No. 194, P. S. Kaliganj. 16. Tulakati, J. L. No. 49, P. S. Kaliganj. 17. Srikata, J. L. No. 179, P. S. Kaliganj. 18. Gobindapur (Bara), J. L. No. 169, P. S. Kaliganj. 19. Bhadrakhali, J. L. No. 54, P. S. Kaliganj. 20. Sonatala, J. L. No. 216, P. S. Kaliganj. 21. Kalijoga, J. L. No. 51, P. S. Kaliganj. 22. Panla, J. L. No. 168, P. S. Kaliganj.	61 72	Rs. A. P. 232 3 0	Rs. A. P. 238 4 0	1925	1910	Khas management.
2	232	Khas Mahal Khanka ..	1. Sibnagar, J. L. No. 171, P. S. Dumuria. 2. Angardaha, J. L. No. 27, P. S. Dumuria. 3. Char Rupsa, J. L. No. 24, P. S. Khulna. 4. Alalpur, J. L. No. 49, P. S. Khulna. 5. Khanka, J. L. No. 40, P. S. Khulna. 6. Bhabanipur, J. L. No. 47, P. S. Khulna. 7. Samantasena, J. L. No. 37, P. S. Khulna. 8. Ukhra, J. L. No. 41, P. S. Dumuria. 9. Par Salua, J. L. No. 36, P. S. Batiaghata. 10. Ballahara, J. L. No. 118, P. S. Dumuria.	688 93	1,979 3 0	2,122 9 0	1925	1910	Ditto.
3	353	Khas Mahal Ghona ..	Ghona, J. L. No. 19, P. S. Satkhira.	27 90	85 14 9	97 9 0	1925	1940	Ditto.

APPENDIX IX (a)—contd.

Government Estates of the Khulna Collectorate under Resettlement of Land Revenue—contd.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4*	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
4	301	Khas Mahal Tentulia, Labsa and others.	1. Labsa, J. L. No. 88, P. S. Satkhira. 2. Mirzapur Bansghata, J. L. No. 83, P. S. Satkhira. 3. Mathurapur, J. L. No. 87, P. S. Satkhira. 4. Bencerpota, J. L. No. 89, P. S. Satkhira. 5. Kasimpur, J. L. No. 93, P. S. Satkhira. 6. Palaspol, J. L. No. 94, P. S. Satkhira. 7. Magura Gopinathpur, J. L. 90, P. S. Satkhira. 8. Jograjpur, J. L. No. 84, P. S. Satkhira. 9. Bhomra, J. L. No. 27, P. S. Satkhira. 10. Tentulia, J. L. No. 194 P. S. Kalliganj. 11. Char Debhata, J. L. No. 14, P. S. Debhata. 12. Char Chhutipur, J. L. No. 52, P. S. Debhata. 13. Khanji Raghunathpur, J. L. No. 1, P. S. Kalliganj. 14. Suhilpur, J. L. No. 19, P. S. Kalliganj.	170 42	366 11 3	366 14 0	1925	1940	Khas management.
5	510	Khas Mahal Kshetrapara	Kshetrapara, J. L. No. 111, P. S. Kalaroa.	0 82	1 7 0	4 7 0	1925	1940	Ditto.
6	606	Khas Mahal Labsa (Chhota).	Labsa, J. L. No. 88, P. S. Satkhira.	0 35	1 0 0	1 10 0	1925	1940	Ditto.
7	779	Sundarbans Bajcapli Mahal Ahladipur.	Ahladipur, J. L. No. 122, P. S. Dumuria.	790 18	530 0 0	1,769 15 0	1925	1940	Ditto.
8	808	Khas Mahal Kalidaspur, etc.	1. Kalidaspur, J. L. No. 80, P. S. Paikgachha. 2. Kantabunia, J. L. No. 83, P. S. Paikgachha. 3. Chak Kaonli, J. L. No. 81, P. S. Paikgachha.	1,108 60	1,336 0 0	1,724 1 0	1925	1940	Ditto.
9	806	Sundarbans Bajcapli Mahal Chak Kakarbil.	Kakarbil, J. L. No. 86, P. S. Kachua.	2 64	8 0 0	11 4 0	1926	1941	Ditto.
10	813	Sundarbans Bajcapli Mahal Kharia Dhemsakhali.	Kharia Dhemsakhali, J. L. No. 92, P. S. Paikgachha.	5,310 0	7,780 0 0	9,867 4 9 9,916 1 0	1925 1930	1930 1940	Ditto.
11	835	Khas Mahal Char Magura	Magura, J. L. No. 71, P. S. Tala.	14 84	10 0 0	21 6 0	1925	1940	Ditto.
12	836	Khas Mahal Char Jamuna	Char Jamuna, J. L. No. 63, P. S. Kalliganj.	85 89	192 0 0	339 15 0 411 15 0	1925 1930	1930 1940	Ditto.
13	846	Sundarbans Bajcapli Mahal Jalmari.	Chak Betkanta, J. L. No. 155, P. S. Rampal.	659 70	920 0 0	2,776 11 0	1926	1941	Ditto.
14	855	Khas Mahal Chakla Telikhali.	Chakla Telikhali, J. L. No. 158, P. S. Assanul.	35 84	93 0 3	92 0 0	1925	1940	Ditto.
15	856	Sundarbans Bajcapli Mahal Chak Teligati.	Chak Teligati, J. L. No. 15, P. S. Morrellganj.	1,804 32	3,782 0 0	8,259 3 9	1926	1941	Ditto.
16	935	Sundarbans Bajcapli Mahal Chak Surnal.	Chak Surnal, J. L. No. 33, P. S. Paikgachha.	159 19	200 0 0	311 1 6	1925	1940	Ditto.

APPENDIX IX (a) *contd.*Government Estates of the Khulna Collectorate under Resettlement of Land Revenue *contd.*

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
17	971	Sundarbans Khasabadi Mahal Chandkhali.	1. Chandkhali, J. L. No. 79, P. S. Paikgachha. 2. Kanuadanga, J. L. No. 82, P. S. Paikgachha. 3. Garerdanga, J. L. No. 98, P. S. Paikgachha. 4. Sripur, J. L. No. 97, P. S. Paikgachha. 5. Chandmukhi, J. L. No. 90, P. S. Paikgachha. 6. Fedurabad, J. L. No. 103, P. S. Paikgachha. 7. Fatepur, J. L. No. 100, P. S. Paikgachha. 8. Dongabhangra, J. L. No. 102, P. S. Paikgachha. 9. Dhemsakhali, J. L. No. 106, P. S. Paikgachha. 10. Chak Narikelatala, J. L. No. 109, P. S. Paikgachha. 11. Kuoali, J. L. No. 99, P. S. Paikgachha.	1,757 81	2,591 14 0	2,803 2 0	1925	1940	Khas management.
18	978	Khas Mahal Char Banlari	1. Char Banlari, J. L. No. 11, P. S. Kachua. 2. Char Hoglabunia, J. L. No. 91, P. S. Morrelganj. 3. Banlari, J. L. No. 185, P. S. Nazirpur (District Bakarganj).	3,730 18	10,317 0 0	12,815 15 0	1926	1941	Ditto.
19	984	Khas Mahal Mahmudabad.	1. Hatbardanga, J. L. No. 129, P. S. Paikgachha. 2. Gajalia, J. L. No. 93, P. S. Paikgachha. 3. Kalua, J. L. No. 94, P. S. Paikgachha. 4. Kalya Chhitibunia, J. L. No. 86, P. S. Paikgachha. 5. Maukhali, J. L. No. 105, P. S. Paikgachha.	3,483 94	5,906 10 3	6,012 15 0	1925	1940	Ditto.
20	1,020	Khas Mahal Island Char Sonakur.	Char Sonakur, J. L. No. 49, P. S. Kachua.	142 11	224 10 9	267 14 0	1926	1941	Ditto.
21	857	Sundarbans Bajcapiti Mahal Dargatala.	Swaranpur, J. L. No. 135, P. S. Asasuni.	212 35	251 0 0	447 0 0	1925	1940	Farming.
22	881	Sundarbans Bajcapiti Mahal Basudebpur and others.	1. Basudebpur, J. L. No. 147, P. S. Asasuni. 2. Ballabhpur, J. L. No. 140, P. S. Asasuni. 3. Rajapur, J. L. No. 145, P. S. Asasuni.	162 04	212 0 0	407 0 0	1925	1940	Ditto.
23	891	Bajcapiti Mahal Purba Biralakshi.	Purba Biralakshi, J. L. No. 105, P. S. Sydmnagar.	315 21	504 0 0	964 0 0	1925	1940	Ditto.
24	939	Sundarbans Bajcapiti Mahal Saranpur.	Swaranpur, J. L. No. 135, P. S. Asasuni.	100 93	246 0 0	413 0 0	1925	1940	Ditto.
25	969	Sundarbans Bajcapiti Mahal Par Madartala.	Par Madartala, J. L. No. 104, P. S. Dumuria.	505 78	218 0 0	1,000 0 0	1925	1940	Ditto.
26	998	Sundarbans Abadkari Mahal Uttar Bainbari.	Uttar Bainbari, J. L. No. 190, P. S. Paikgachha.	952 73	534 0 0	1,116 0 0	1926	1956	Held under large capitalist rules of 1879.
27	999	Sundarbans Abadkari Mahal Dakshin Bainbari.	Dakshin Bainbari, J. L. No. 191, P. S. Paikgachha.	1,256 25	703 0 0	1,566 0 0	1926	1956	Ditto.
28	995	Sundarbans Abadkari Mahal Kumkhali.	Kumkhali, J. L. No. 188, P. S. Paikgachha.	2,625 88	3,395 8 0	3,835 0 0	1926	1956	Held under small capitalist rules of 1879.
29	996	Sundarbans Abadkari Mahal Bhagba.	Bhagba, J. L. No. 192, P. S. Paikgachha.	787 42	942 0 0	1,389 0 0	1926	1956	Ditto.
30	997	Sundarbans Abadkari Mahal Gunari.	Gunari, J. L. No. 11, P. S. Dacope.	4,159 47	5,550 0 0	7,239 0 0	1925	1955	Ditto.
31	1000	Khas Mahal West (Paschim) Hadda.	Hadda, J. L. No. 189, P. S. Paikgachha.	1,872 54	2,599 0 0	2,599 0 0 3,717 0 0	1925 1930	1930 1955	Ditto.

APPENDIX IX (a)—contd.

Government Estates of the Khuina Collectorate under Resettlement of Land Revenue—contd.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
32	1024	Khas Mahal East Hadda	Hadda, J. L. No. 189, P. S. Paikgachha.	1,573 50	2,180 0 0	2,180 0 0 2,835 0 0	1925 1930	1930 1955	Held under small capital rules of 1879.
33	781	Sundarbans Bajepati Mahal Alakdia Chak.	Alakdia, J. L. No. 59, P. S. Paikgachha.	43 32	99 0 0	118 0 0	1925	1940	Talukdari settlement.
34	783	Sundarbans Bajepati Mahal Abdul Rasulpur.	Abdul Rasulpur, J. L. No. 146, P. S. Rampal.	651 60	1,530 0 0	2,341 0 0	1926	1941	Ditto.
35	784	Sundarbans Bajepati Mahal Chak Betangi.	Gumantali, J. L. No. 111, P. S. Syamnagar.	41 66	102 12 0	204 0 0	1925	1940	Ditto.
36	786	Sundarbans Bajepati Mahal Karulia.	Karulia, J. L. No. 67, P. S. Paikgachha.	399 51	510 0 0	670 0 0	1925	1940	Ditto.
37	802	Sundarbans Bajepati Mahal Chak Kakarbil, I.	Kakarbil, J. L. No. 86, P. S. Kachua.	109 98	382 0 0	406 0 0	1926	1941	Ditto.
38	803	Sundarbans Bajepati Mahal Chak Kakarbil, II.	Ditto	21 50	68 0 0	72 0 0	1926	1941	Ditto.
39	804	Sundarbans Bajepati Mahal Chak Kakarbil, III.	Ditto	266 18	522 0 0	962 0 0	1927	1942	Ditto.
40	805	Sundarbans Bajepati Mahal Chak Kakarbil, IV.	Ditto	10 01	37 0 0	44 0 0	1926	1941	Ditto.
41	809	Sundarbans Bajepati Mahal Kumibunia.	Kule Srikanthapur, J. L. No. 71, P. S. Paikgachha.	81 27	105 0 0	125 0 0	1925	1940	Ditto.
42	811	Sundarbans Bajepati Mahal Kaipukuria.	Kaipukuria, J. L. No. 173, P. S. Dumuria.	285 72	318 0 0	412 0 0	1925	1940	Ditto.
43	815	Sundarbans Bajepati Mahal Khagrabunia.	Khagrabunia, J. L. No. 174, P. S. Dumuria.	286 17	358 0 0	509 0 0	1925	1940	Ditto.
44	829	Sundarbans Bajepati Mahal Jabakhali.	Gumantali, J. L. No. 111, P. S. Syamnagar.	5 32	18 0 0	23 0 0	1925	1940	Ditto.
45	831	Sundarbans Bajepati Mahal Guachhoba.	Guachhoba, J. L. No. 159, P. S. Paikgachha.	610 47	781 0 0	1,058 0 0	1925	1940	Ditto.
46	832	Sundarbans Bajepati Mahal Geubunia.	Geubunia, J. L. No. 166, P. S. Paikgachha.	504 48	552 0 0	893 0 0	1925	1940	Ditto.
47	838	Sundarbans Bajepati Mahal Chakri Bakri.	Chakri Bakri, J. L. No. 165, P. S. Paikgachha.	193 61	208 0 0	321 0 0	1925	1940	Ditto.
48	840	Sundarbans Bajepati Mahal Charadaha.	Charadaha, J. L. No. 133, P. S. Rampal.	380 91	861 0 0	1,437 0 0	1926	1941	Ditto.
49	841	Sundarbans Bajepati Mahal Keoratala.	Keoratala, J. L. No. 87, P. S. Paikgachha.	464 02	583 0 0	670 0 0 802 0 0	1926 1931	1931 1941	Ditto.
50	842	Sundarbans Bajepati Mahal Matan.	Matan, J. L. No. 88, P. S. Paikgachha.	111 24	189 0 0	222 0 0	1925	1940	Ditto.
51	843	Sundarbans Bajepati Mahal Chak Chandmukhi.	Chak Chandmukhi, J. L. No. 69, P. S. Paikgachha.	207 09	310 0 0	399 0 0	1925	1940	Ditto.
52	860	Sundarbans Bajepati Mahal Nasimabad.	Nasimabad, J. L. No. 118, P. S. Asasuni.	390 55	579 0 0	926 0 0	1925	1940	Ditto.
53	863	Sundarbans Bajepati Mahal Nagar Jamira.	Madiner Abad, J. L. No. 233, P. S. Paikgachha.	1,264 62	1,300 0 0	2,241 0 0	1925	1940	Ditto.
54	864	Sundarbans Bajepati Mahal Chak Narasing Datterber.	Chak Narasingdatterber, J. L. No. 143, P. S. Rampal.	193 98	462 0 0	526 0 0	1926	1941	Ditto.
55	869	Sundarbans Bajepati Mahal Pancha Malerber.	Chak Panchamalerber, J. L. No. 144, P. S. Rampal.	759 85	1,654 0 0	2,446 0 0	1926	1941	Ditto.
56	871	Sundarbans Bajepati Mahal Pana.	Pana, J. L. No. 153, P. S. Paikgachha.	613 12	750 0 0	1,280 0 0	1925	1940	Ditto.
57	884	Sundarbans Bajepati Mahal Basurabad.	Basar Abad, J. L. No. 35, P. S. Paikgachha.	394 23	549 0 0	762 0 0	1925	1940	Ditto.
58	885	Sundarbans Bajepati Mahal Basakhali.	Basakhali, J. L. No. 147, P. S. Paikgachha.	75 03	128 0 0	161 0 0	1925	1940	Ditto.
59	886	Sundarbans Bajepati Mahal Bahirbunia.	Bahirbunia, J. L. No. 155, P. S. Paikgachha.	272 44	390 0 0	533 0 0	1925	1940	Ditto.
60	887	Khas Mahal Bagardar South.	Dakshin Bagardar, J. L. No. 177, P. S. Dumuria.	236 55	239 0 0	390 0 0	1925	1940	Ditto.

APPENDIX IX (a) *contd.*Government Estates of the Khulna Collectorate under Resettlement of Land Revenue *contd.*

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
61	889	Sundarbans Abadkari Mahal Badlarkona.	Chak Chandmukhi, J. L. No. 69, P. S. Paikgachha.	23 67	48 0 0	53 0 0	1925	1940	Talukdari settlement.
62	890	Sundarbans Bajcapiti Mahal Bansbaria.	Bansbaria, J. L. No. 153, P. S. Rampal.	1,032 08	3,069 0 0	6,291 0 0	1927	1942	Ditto.
63	894	Sundarbans Bajcapiti Mahal Biharihitia.	Basakhali, J. L. No. 147, P. S. Paikgachha.	73 39	172 0 0	199 0 0	1925	1940	Ditto.
64	895	Sundarbans Bajcapiti Mahal Chak Boalmari.	Kule Srikanthapur, J. L. No. 71, P. S. Paikgachha.	73 85	125 0 0	137 0 0	1925	1940	Ditto.
65	902	Sundarbans Bajcapiti Mahal Bhairabdanga.	Bhairabdanga, J. L. No. 47, P. S. Rampal.	118 72	229 0 0	242 0 0	1926	1941	Ditto.
66	906	Sundarbans Bajcapiti Mahal Mallikerber.	Mallikerber, J. L. No. 150, P. S. Rampal.	2,060 93	4,051 0 0	7,164 0 0	1927	1942	Ditto.
67	915	Sundarbans Bajcapiti Mahal Lakshmikhola.	Lakshmikhola, J. L. No. 90, P. S. Paikgachha.	657 20	787 0 0	1,026 0 0	1925	1940	Ditto.
68	933	Sundarbans Bajcapiti Mahal Siberbati.	Siberbati, J. L. No. 60, P. S. Paikgachha.	331 31	472 0 0	582 0 0	1925	1940	Ditto.
69	942	Sundarbans Bajcapiti Mahal Singjor.	Basakhali, J. L. No. 147, P. S. Paikgachha.	117 84	246 0 0	285 0 0	1925	1940	Ditto.
70	946	Sundarbans Bajcapiti Mahal Haldaha.	Haldaha, J. L. No. 129, P. S. Rampal.	397 75	476 0 0	1,006 0 0	1926	1941	Ditto.
71	949	Sundarbans Bajcapiti Mahal Haria.	1. Haria, J. L. No. 148, P. S. Paikgachha. 2. Tentultala, J. L. No. 152, P. S. Paikgachha. 3. Dholai, J. L. No. 157, P. S. Paikgachha. 4. Sankardana, J. L. No. 151, P. S. Paikgachha.	3,056 05	3,065 0 0	5,559 0 0	1925	1940	Ditto.
72	951	Sundarbans Bajcapiti Mahal Helakhardanga.	Kule Srikanthapur, J. L. No. 71, P. S. Paikgachha.	29 41	56 0 0	62 0 0	1925	1940	Ditto.
73	782	Sundarbans Bajcapiti Mahal Alamtala.	Alamtala, J. L. No. 91, P. S. Paikgachha.	586 66	907 0 0	931 0 0	1925	1940	Malguzari settlement.
74	787	Sundarbans Bajcapiti Mahal Orabunia.	Orabunia, J. L. No. 85, P. S. Paikgachha.	407 38	460 0 0	549 0 0	1925	1940	Ditto.
75	794	Sundarbans Bajcapiti Mahal Chak Guptirdia.	Chak Guptirdia, J. L. No. 148, P. S. Rampal.	144 93	373 0 0	476 0 0	1926	1941	Ditto.
76	797	Sundarbans Bajcapiti Mahal Kasimari.	Kasimari, J. L. No. 103, P. S. Syamnagar.	1,469 46	2,150 0 0	3,280 0 0	1925	1940	Ditto.
77	799	Sundarbans Bajcapiti Mahal Katalia.	Katalia, J. L. No. 123, P. S. Dumuria.	680 18	700 0 0	1,052 0 0	1925	1940	Ditto.
78	800	Sundarbans Abadkari Mahal Srinagar Kallinagar.	Srinagar Kallinagar, J. L. No. 15, P. S. Dacope.	5,385 31	4,399 0 0	7,372 0 0	1925	1940	Ditto.
79	807	Sundarbans Bajcapiti Mahal Kalikabari.	Kalikabari, J. L. No. 156, P. S. Rampal.	713 12	1,734 0 0	2,488 0 0	1926	1940	Ditto.
80	812	Sundarbans Bajcapiti Mahal Chak Korakata.	Korakata, J. L. No. 119, P. S. Dumuria.	626 72	176 0 0	1,040 0 0	1925	1940	Ditto.
81	821	Sundarbans Bajcapiti Mahal Khepna.	Khepna, J. L. No. 130, P. S. Paikgachha.	400 87	574 0 0	738 0 0	1925	1940	Ditto.
82	825	Sundarbans Bajcapiti Mahal Gazinagar.	Gazinagar, J. L. No. 184, P. S. Dumuria.	231 61	300 0 0	335 0 0	1925	1940	Ditto.
83	830	Sundarbans Bajcapiti Mahal Bilgodaria.	Kasimari, J. L. No. 103, P. S. Syamnagar.	355 35	462 0 0	760 0 0	1925	1940	Ditto.
84	844	Sundarbans Bajcapiti Mahal Seora Chingrakhal.	Seora, J. L. No. 208, P. S. Paikgachha.	358 02	554 0 0	827 0 0	1925	1940	Ditto.
85	847	Sundarbans Bajcapiti Mahal Mandartala.	Mandartala, J. L. No. 124, P. S. Dumuria.	1,944 94	1,182 0 0	3,633 0 0	1925	1940	Ditto.
86	859	Sundarbans Bajcapiti Mahal Dhoramari Abad.	Dhoramari Abad, J. L. No. 57, P. S. Paikgachha.	87 83	105 0 0	126 0 0	1925	1940	Ditto.
87	861	Sundarbans Bajcapiti Mahal Chak Noyantala.	Chak Noyantala, J. L. No. 34, P. S. Paikgachha.	188 21	227 0 0	245 0 0	1925	1940	Ditto.
88	879	Sundarbans Bajcapiti Mahal Parmagurkhal.	Parmagurkhal, J. L. No. 121, P. S. Dumuria.	410 47	357 0 0	538 0 0	1925	1940	Ditto.

APPENDIX IX (a)—concl'd.

Government Estates of the Khulna Collectorate^a under Resettlement of Land Revenue—concl'd.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
89	872	Sundarbans Bajcapli Mahal Putimari.	Putimari, J. L. No. 157, P. S. Paikgachha.	1,204 87	1,977 0 0	2,370 0 0	1925	1940	Malguzari settlement.
90	879	Sundarbans Bajcapli Mahal Badan Haldar Ber.	Badan Haldar Ber, J. L. No. 173, P. S. Bazerhat.	135 18	326 0 0	845 0 0	1926	1941	Ditto.
91	888	Khas Mahal Purbha Bajua	Bajua, J. L. No. 19, P. S. Dacope.	1,668 56	3,342 0 0	5,208 0 0	1925	1940	Ditto.
92	892	Sundarbans Bajcapli Mahal Paschim Biralakshi.	Paschim Biralakshi, J. L. No. 104, P. S. Syamnagar.	316 52	455 0 0	707 0 0	1925	1940	Ditto.
93	893	Sundarbans Bajcapli Mahal Bishnupur.	Chak Bishnupur, J. L. No. 78, P. S. Paikgachha.	366 29	822 0 0	942 0 0	1925	1940	Ditto.
94	896	Sundarbans Bajcapli Mahal Chak Bharbharia.	Chak Bharbharia, J. L. No. 56, P. S. Paikgachha.	265 55	315 0 0	474 0 0	1925	1940	Ditto.
95	907	Sundarbans Bajcapli Mahal Chak Magurkhali.	Magurkhali, J. L. No. 120, P. S. Dumuria.	710 12	643 0 0	1,022 0 0	1925	1940	Ditto.
96	911	Sundarbans Bajcapli Mahal Mistridanga.	Chak Mistridanga, J. L. No. 6, P. S. Morrelganj.	707 76	1,809 0 0	2,533 0 0	1926	1941	Ditto.
97	916	Sundarbans Bajcapli Mahal Laskar.	Laskar, J. L. No. 143, P. S. Paikgachha.	766 24	1,131 0 0	1,182 0 0	1925	1940	Ditto.
98	931	Sundarbans Abadkari Mahal Saheber Abad.	Saheber Abad, J. L. No. 17, P. S. Dacope.	1,732 76	1,269 0 0	4,315 0 0	1925	1940	Ditto.
99	932	Sundarbans Bajcapli Mahal Samukpota.	Samukpota, J. L. No. 156, P. S. Paikgachha.	332 51	398 0 0	598 0 0	1925	1940	Ditto.
100	943	Sundarbans Bajcapli Mahal Kule Srikanthapur.	Kule Srikanthapur, J. L. No. 71, P. S. Paikgachha.	39 27	50 0 0	55 0 0	1925	1940	Ditto.
101	950	Sundarbans Bajcapli Mahal Hentalbunia.	Hentalbunia, J. L. No. 89, P. S. Paikgachha.	216 46	311 0 0	402 0 0	1925	1940	Ditto.
102	953	Sundarbans Bajcapli Mahal Choradanga.	Choradanga Buranpur, J. L. No. 50, P. S. Paikgachha.	102 81	163 0 0	189 0 0	1925	1940	Ditto.
103	954	Sundarbans Bajcapli Mahal Gobindapur.	Gobindapur, J. L. No. 99, P. S. Syamnagar.	528 73	701 0 0	1,387 0 0	1925	1940	Ditto.
104	956	Sundarbans Bajcapli Mahal Dighalia.	Dighalia, J. L. No. 164, P. S. Paikgachha.	312 98	383 0 0	627 0 0	1925	1940	Ditto.
105	974	Sundarbans Abadkari Mahal Langalmura.	Nagalmura, J. L. No. 175, P. S. Dumuria.	230 45	293 0 0	362 0 0	1925	1940	Ditto.

APPENDIX (b).

Temporarily-settled Private Estates of the Khulna⁶ Collectorate under Resettlement of Land Revenue.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
1	777	Maliki Mahul Char Phultala.	Char Phultala, J. L. No. 71, P. S. Kachua.	431 57	1,166 0 0	1,485 0 0	1926	1941	Proprietary settlement.
2	778	Maliki Mahul Gachha Amratala.	Gachha, J. L. No. 24, P. S. Tala.	81 88	50 0 0	105 0 0	1925	1940	Ditto.
3	780	Sundarbans Abadkari Mahul Atlia.	Atlia, J. L. No. 107, P. S. Syamnagar.	4,555 09	1,236 12 9	23,269 0 0	1926	1941	Ditto.
4	791	Maliki Mahul Katipara.	Katipara, J. L. No. 52, P. S. Paikgachha.	267 06	518 12 9	531 0 0	1925	1940	Ditto.
5	793	Maliki Mahul Char Kachua.	Char Kachua, J. L. No. 68, P. S. Kachua.	19 76	53 13 6	133 0 0	1926	1941	Ditto.
6	827	Bajepti Mahul Char Gintakati.	Gintakati, J. L. No. 58, P. S. Kachua.	0 80	3 0 10	4 0 0	1926	1941	Ditto.
7	849	Maliki Mahul Tengramari.	1. Tengramari, J. L. No. 154, P. S. Dumuria. 2. Kapulidanga, J. L. No. 155, P. S. Dumuria.	85 08	163 0 0	128 0 0	1925	1940	Ditto.
8	850	Maliki Mahul Char Tengrakhal.	Tengrakhal, J. L. No. 69, P. S. Kachua.	579 20	1,564 13 6	1,988 0 0	1926	1941	Ditto.
9	851	Maliki Mahul Dakatia	Dakatia, J. L. No. 8, P. S. Kachua.	52 41	71 6 6	103 0 0	1926	1941	Ditto.
10	858	Maliki Mahul Char Dhalnagar.	Char Dhalnagar, J. L. No. 61, P. S. Kachua.	73 06	117 10 3	280 0 0	1926	1941	Ditto.
11	898	Maliki Mahul Taltala	1. Taltala, J. L. No. 60, P. S. Khulna. 2. Gilatala, J. L. No. 59, P. S. Khulna. 3. Fatehpur, J. L. No. 38, P. S. Khulna.	18 94	21 15 6	19 0 0	1925	1940	Ditto.
12	899	Maliki Mahul Bhairab Nadi Char.	Bhairab Nadi Char, J. L. No. 17, P. S. Fakirhat.	103 10	136 2 8	283 0 0	1926	1941	Ditto.
13	901	Maliki Mahul Char Kant-hall.	1. Kanthali, J. L. No. No. 23, P. S. Bagerhat. 2. Sotai, J. L. No. 22, P. S. Bagerhat.	31 90	50 0 0	123 0 0	1926	1941	Ditto.
14	903	Maliki Mahul Char Sahebermet.	Sahebermet, J. L. No. 169, P. S. Ranpal.	80 28	22 0 0	206 0 0	1926	1941	Ditto.
15	909	Bajepti Mahul Char Malipatan, etc.	1. Char Malipatan, J. L. No. 73, P. S. Kachua. 2. Dari Char Malipatan, J. L. No. 72, P. S. Kachua.	274 67	788 2 0	1,072 0 0	1926	1941	Ditto.
16	937	Maliki Mahul Char Sonakur.	Char Sonakur, J. L. No. 49, P. S. Kachua.	1,072 32	1,873 5 0	3,143 0 0 3,291 0 0	1926 1931	1931 1941	Ditto.
17	938	Diara Mahul Char Hadirabad II.	Char Hadirabad, J. L. No. 102, P. S. Baltaghat.	85 51	217 11 3	466 0 0	1925	1940	Ditto.
18	948	Maliki Mahul Char Hazrakhal.	Char Hazrakhal, J. L. No. 56, P. S. Kachua.	137 23	338 8 0	383 0 0	1926	1941	Ditto.
19	975	Diara Mahul Char Hadirabad.	Char Hadirabad, J. L. No. 102, P. S. Baltaghat.	131 58	207 10 6	385 0 0	1925	1940	Ditto.
20	981	Maliki Mahul Bagdia, etc.	1. Bagdia, J. L. No. 35, P. S. Bagerhat. 2. Akhainagar, J. L. No. 37, P. S. Bagerhat.	71 40	201 3 0	189 0 0 192 0 0	1926 1931	1931 1941	Ditto.
21	989	Maliki Mahul Char Khonarmet.	1. Khatoli, J. L. No. 3, P. S. Dacope. 2. Khona, J. L. No. 6, P. S. Dacope. 3. Barulkhali, J. L. No. 5, P. S. Dacope.	2,479 86	2,184 0 0	5,024 0 0	1925	1940	Ditto.
22	1027	Maliki Mahul Char Pania, etc.	1. Pania, J. L. No. 168, P. S. Kaliganj. 2. Bazargram Rahimpur, J. L. No. 56, P. S. Kaliganj. 3. Mahatpur, J. L. No. 55, P. S. Kaliganj. 4. Pirojpur (Chhoti), J. L. No. 52, P. S. Kaliganj. 5. Narsharikati, J. L. No. 167, P. S. Kaliganj. 6. Paramanandakati, J. L. No. 166, P. S. Kaliganj. 7. Jhaighata, J. L. No. 4, P. S. Syamnagar.	169 18	419 7 6	574 0 0	1925	1940	Ditto.

APPENDIX IX (b)—concl'd.

Temporarily-settled Private Estates of the Khulna Collectorate under Resettlement of Land Revenue—concl'd.

Serial No.	Estate No.	Name of Mahal.	Name of thand with J. L. No. of manzars in which the estate occurs.	Area in acres.	Former revenue.	Present revenue.	Period of settlement.		Nature of settlement.
							From	To	
1	2	3	4	5	6	7	8	9	10
				A. D.	Rs. A. P.	Rs. A. P.			
23	1030	Maliki Mahal Char Sitalpur.	1. Sitalpur, J. L. No. 40, P. S. Kaliganj. 2. Chardaha, J. L. No. 57, P. S. Kaliganj. 3. Dija, J. L. No. 87, P. S. Kaliganj. 4. Dudli, J. L. No. 120, P. S. Kaliganj. 5. Khajubaria, J. L. No. 88, P. S. Kaliganj. 6. Anantapur, J. L. No. 3, P. S. Syamnagar. 7. Ichhakur, J. L. No. 9, P. S. Syamnagar. 8. Bhurulia, J. L. No. 20, P. S. Syamnagar. 9. Naglati, J. L. No. 10, P. S. Syamnagar. 10. Badghata, J. L. No. 27, P. S. Syamnagar. 11. Majhat Anantapur, J. L. No. 2, P. S. Syamnagar.	309 83	669 7 3	858 0 0	1925	1940	Proprietary settlement.
24	1033	Maliki Mahal Sonal Gharumir Char.	Char Sonalghuramir, J. L. No. 165, P. S. Kaliganj.	47 75	149 4 6	200 0 0	1925	1940	Ditto.
25	1035	Maliki Mahal Char Majhat, etc.	1. Majhat Anantapur, J. L. No. 2, P. S. Syamnagar. 2. Badghata, J. L. No. 27, P. S. Syamnagar.	35 09	83 1 0	107 0 0	1925	1940	Ditto.
26	1036	Maliki Mahal Char Raypur, etc.	1. Raypur, J. L. No. 163, P. S. Kaliganj. 2. Chak Nityanandapur, J. L. No. 1, P. S. Syamnagar.	21 70	23 7 6	42 0 0	1925	1940	Ditto.
27	1037	Maliki Mahal Chandipur	1. Chandipur, J. L. No. 94, P. S. Syamnagar. 2. Halhatpur, J. L. No. 91, P. S. Syamnagar.	56 53	95 9 0	120 0 0	1925	1940	Ditto.
28	1039	Maliki Mahal Ismailpur	Ismailpur, J. L. No. 90, P. S. Syamnagar.	34 71	35 5 6	80 0 0	1925	1940	Ditto.
29	1040	Maliki Mahal Char Mahmudpur.	Mahmudpur, J. L. No. 28, P. S. Syamnagar.	69 61	154 14 0	200 0 0	1925	1940	Ditto.
30	1043	Maliki Mahal Char Chingrakhal.	Chingrakhal, J. L. No. 42, P. S. Syamnagar.	14 94	7 3 0	21 0 0	1925	1940	Ditto.
31	1044	Maliki Mahal Char Satbasu.	Satbasu, J. L. No. 2, P. S. Kaliganj.	41 94	10 13 6	62 0 0	1925	1940	Ditto.
32	1139	Maliki Mahal Athia, 11 Part.	Athia, J. L. No. 107, P. S. Syamnagar.	25 88	.....	144 0 0	1926	1941	Ditto.
33	788	Maliki Mahal Kusba Mantala.	1. Ichhakur, J. L. No. 9, P. S. Syamnagar. 2. Katibharal, J. L. No. 7, P. S. Syamnagar.	17 09	25 14 0	75 6 0	1925	1935	Has management on the revenue of proprietors. Ditto.
34	866	Maliki Mahal Char Chandraganti.	Chandraganti, J. L. No. 19, P. S. Khulna.	0 49	2 10 0	2 1 0	1925	1935	Ditto.
35	900	Maliki Mahal Char Srirampur.	1. Char Srirampur, J. L. No. 43, P. S. Khulna. 2. Chandraganti, J. L. No. 19, P. S. Khulna.	9 61	77 8 0	60 10 6	1925	1935	Ditto.
36	968	Maliki Mahal Char Uthali Gopalpur.	1. Uthali, J. L. No. 69, P. S. Tala. 2. Gopalpur, J. L. No. 91, P. S. Tala.	66 75	49 14 0	80 9 0	1925	1935	Ditto.
37	976	Diara Mahal Char Hadirabad II.	Char Hadirabad, J. L. No. 102, P. S. Baitaghata.	4 13	8 4 0	14 0 0	1925	1935	Ditto.
38	982	Maliki Mahal Char Srirampur.	Char Srirampur, J. L. No. 43, P. S. Khulna.	78 04	263 6 9	382 12 6	1925	1935	Ditto.
39	987	Bajrapati Mahal Subhakarajati.	Subhakarajati, J. L. No. 96, P. S. Morrellganj.	81 07	369 0 6	387 5 0	1926	1936	Ditto.
40	1023	Maliki Mahal Char Hoglapasa.	Hoglapasa, J. L. No. 54, P. S. Morrellganj.	359 44	920 0 0	1,790 2 0	1926	1936	Ditto.
41	1025	Maliki Mahal Bazargram	1. Bazargram, J. L. No. 42, P. S. Kaliganj. 2. Bhadrakhal, J. L. No. 54, P. S. Kaliganj.	6 66	11 12 0	11 4 0	1925	1935	Ditto.
42	1031	Maliki Mahal Chak Kanehrakhat, etc.	1. Kanehrakhat Nandigram, J. L. No. 22. 2. Chalitaghata, J. L. No. 11, P. S. Syamnagar. 3. Katibharal, J. L. No. 7, P. S. Syamnagar.	88 62	234 4 9	409 4 0	1925	1935	Ditto.
43	1032	Maliki Mahal Char Hasankati.	Hasankati, J. L. No. 164, P. S. Kaliganj.	2 14	1 14 6	5 6 0	1925	1935	Ditto.
44	1041	Maliki Mahal Char Fulbaria, etc.	1. Fulbaria, J. L. No. 29, P. S. Syamnagar. 2. Jadabpur, J. L. No. 30, P. S. Syamnagar.	25 08	38 0 0	125 0 0	1925	1935	Ditto.
45	1042	Maliki Mahal Char Bara Chingrakhal.	Chingrakhal, J. L. No. 42, P. S. Syamnagar.	106 50	62 11 0	196 13 0	1925	1935	Ditto.

APPENDIX X (C).

Government Estates of the Khulna Collectorate not under Settlement of Land Revenue.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Present revenue.	Period of settlement.		Nature of settlement.
						From	To	
1	2	3	4	5	6	7	8	9
					Rs. A. P.			
1	1001	Khas Mahal Paschim Bajua.	Bajua, J. L. No. 19, P. S. Dacope.	1,335.79	750 0 0	1910-11	1929-30	Held under large capitalist rules of 1879.
2	1002	Khas Mahal Paschim Dhopadihi.	Dhopadihi, J. L. No. 21, P. S. Dacope.	1,463.10	788 0 0	1910-11	1929-30	Ditto.
3	1003	Khas Mahal Paschim Dacupi.	Dacupi, J. L. No. 20, P. S. Dacope.	2,091.13	1,125 0 0	1910-11	1929-30	Ditto.
4	1004	Khas Mahal Purba Dhopadihi.	Dhopadihi, J. L. No. 21, P. S. Dacope.	1,453.16	788 0 0	1910-11	1929-30	Ditto.
5	1005	Khas Mahal Sundarbans 1st Khanda, Lot No. 225.	Harintani, J. L. No. 23, P. S. Dacope.	1,557.52	938 0 0	1912-13	1930-31	Ditto.
6	1006	Khas Mahal Sundarbans 2nd Khanda, Lot No. 225.	Laudubi, J. L. No. 24, P. S. Dacope.	1,523.59	938 0 0	1912-13	1930-31	Ditto.
7	1007	Sundarbans Abadkari Mahal Laudubi.	Laudubi, J. L. No. 24, P. S. Dacope.	1,501.98	938 0 0	1912-13	1930-31	Ditto.
8	1008	Sundarbans Abadkari Mahal Chila.	Chila, J. L. No. 163, P. S. Rampal.	1,618.37	1,406 0 0	1912-13	1930-31	Ditto.
9	1009	Ditto ..	Ditto ..	1,377.58	1,406 0 0	1912-13	1931-32	Ditto.
10	1010	Sundarbans Abadkari Mahal Jaymanirgol.	Jaymanirgol, J. L. No. 164, P. S. Rampal.	1,477.39	1,350 0 0	1890-91	1931-32	Ditto.
11	1011	Sundarbans Abadkari Mahal Sutarkhall, 2nd Part.	Sutarkhall, J. L. No. 14, P. S. Dacope.	847.17	564 0 0	1911-12	1929-30	Ditto.
12	1012	Khas Mahal Sundarbans Lot No. 224, 3rd Part.	Kalabagi Sutarkhall, J. L. No. 13, P. S. Dacope.	3,216.67	1,942 0 0	1911-12	1929-30	Ditto.
13	1013	Khas Mahal Sundarbans Lot No. 224, 4th Part.	Nalian, J. L. No. 12, P. S. Dacope.	1,523.64	938 0 0	1911-12	1929-30	Ditto.
14	1014	Sundarbans Abadkari Mahal Sutarkhall.	Sutarkhall, J. L. No. 14, P. S. Dacope.	1,414.96	953 0 0	1912-13	1930-31	Ditto.
15	1016	Sundarbans Abadkari Mahal Kailasganj.	Kailasganj, J. L. No. 22, P. S. Dacope.	2,625.30	1,313 0 0	1916-17	1934-35	Ditto.
16	1017	Khas Mahal Sundarbans Lot No. 225, 5th Part.	Banisanta, J. L. No. 25, P. S. Dacope.	1,810.95	938 0 0	1895-96	1934-35	Ditto.
17	1018	Khas Mahal Sundarbans Lot No. 225, 6th Part.	Banisanta, J. L. No. 25, P. S. Dacope.	1,817.92	1,013 0 0	1895-96	1934-35	Ditto.
18	1019	Sundarbans Abadkari Mahal Banisanta	Ditto ..	2,510.85	1,406 0 0	1895-96	1934-35	Ditto.
19	1021	Sundarbans Abadkari Mahal Kallinchi.	Kallinchi, J. L. No. 114, P. S. Syamnagar.	475.88	300 0 0	1903-04	1942-43	Ditto.
20	1064	Sundarbans Abadkari Mahal Bhetkhali.	Bhetkhali, J. L. No. 78, P. S. Syamnagar.	2,044.58	1,200 0 0	1911-12	1940-41	Ditto.
21	1065	Mahal Kalkhali ..	Kalkhali, J. L. No. 75, P. S. Syamnagar.	4,441.11	312 0 0	1911-12	1950-51	Ditto.
22	877	Khas Mahal Boyarsinga Chak.	Boyarsinga, J. L. No. 103, P. S. Dumuria.	4,042.36	9,168 11 6	1921-22	1935-36	Ditto (Petty settlement.)
23	979	Sundarbans Abadkari Mahal Baulaghata.	Baulaghata, J. L. No. 222, P. S. Palkgachha.	185.89	250 0 0	1902	1931-32	Held under small capitalist rules of 1879.
24	785	Sundarbans Bajepati Mahal Uttar Bagardair.	Uttar Bagardair, J. L. No. 183, P. S. Dumuria.	196.44	249 0 0	1908	1937-38	Malguzari settlement.
25	801	Sundarbans Bajepati Mahal Chak Kalia.	Kalia, J. L. No. 135, P. S. Rampal.	803.21	1,440 0 0	1910	1929-30	Ditto.
26	833	Sundarbans Bajepati Mahal Mustafapur.	Mustafapur, J. L. No. 138, P. S. Rampal.	1,089.81	1,095 0 0	1910-11	1929-30	Ditto.
27	834	Myadi Hara Gurnia Chak.	Ghurnia, J. L. No. 172, P. S. Dumuria.	382.86	489 0 0	1908	1937-38	Ditto.
28	853	Sundarbans Bajepati Mahal Taltala Alakdi.	Taltala Alakdi, J. L. No. 117, P. S. Dumuria.	372.75	450 0 0	1908	1937-38	Ditto.
29	795	Sundarbans Bajepati Mahal Kapalbandar.	Kapalbandar, J. L. No. 177, P. S. Bagerhat.	449.00	320 13 0	1892	1956-57	Talukdari settlement.
30	798	Sundarbans Bajepati Mahal Katamari.	Dakshin Katamari, J. L. No. 145, P. S. Palkgachha.	164.70	285 0 0	1908	1937-38	Ditto.
31	810	Sundarbans Bajepati Mahal Kharalkhali.	Chak Kharalkhali, J. L. No. 8, P. S. Morrellganj.	2,205.92	1,897 0 6	1880	1938-39	Ditto.

APPENDIX IX (c)—concl'd.

Government Estates of the Khulna Collectorate got under Settlement of Land Revenue—concl'd.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Present revenue.	Period of settlement.		Nature of settlement.
						From	To	
1	2	3	4	5	6	7	8	9
					Rs. A. P.			
32	822	Sundarbans Bajeapti Mahal Khonkarerber.	1. Khonkarerber, J. L. No. 157, P. S. Rampal. 2. Manik khola, J. L. No. 105, P. S. Morrellganj.	6,552-77	1,607 4 11	1856	1939-40	Talukdari settlement.
33	824	Sundarbans Bajeapti Mahal Gazalla.	1. Gazalla, J. L. No. 12, P. S. Morrellganj. 2. Chak Bhutkhali, J. L. No. 13, P. S. Morrellganj.	1,647-51	1 375 2 6	1860	1938-39	Ditto.
34	826	Sundarbans Bajeapti Mahal Gazirhat Darabad.	1. Gazirhat, J. L. No. 14, P. S. Morrellganj. 2. Chapri, J. L. No. 21, P. S. Morrellganj.	933-43	800 14 3	1858	1956-57	Ditto.
35	828	Khas Mahal Gumantali	Gumantali, J. L. No. 111, P. S. Syamnagar.	710-59	1,735 0 0	1908	1937-38	Ditto.
36	852	Sundarbans Bajeapti Mahal Chak Dhulgati.	Chak Dhulgati, J. L. No. 3, P. S. Morrellganj.	665-03	855 9 0	1863	1939-40	Ditto.
37	862	Sundarbans Bajeapti Mahal Chak Narendrapur.	Char Narendrapur, J. L. No. 81, P. S. Kachua.	494-78	587 4 2	1858	1956-57	Ditto.
38	865	Sundarbans Bajeapti Mahal Nazirdia Chak.	Baultali Nazirdia, J. L. No. 2, P. S. Morrellganj.	145-23	112 5 0	1863	1939-40	Ditto.
39	873	Sundarbans Bajeapti Mahal Fakirertakia alias Barukhali.	Fakirertakia, J. L. No. 98, P. S. Morrellganj.	1,565-05	4,981 5 0	1908	1937-38	Ditto.
40	905	Sundarbans Bajeapti Mahal Mahish Charani.	Chak Mahishcharani, J. L. No. 4, P. S. Morrellganj.	639-08	337 14 5	1860	1938-39	Ditto.
41	908	Sundarbans Bajeapti Mahal Madardia Chak.	Mandradia, J. L. No. 149, P. S. Rampal.	624-23	661 1 0	1858	1956-57	Ditto.
42	936	Sundarbans Bajeapti Mahal Sutarali Chak.	1. Uttar Sutarali, J. L. No. 99, P. S. Morrellganj. 2. Dakshin Sutarali, J. L. No. 113, P. S. Morrellganj.	5,397-98	1,553 5 0	1860	1938-39	Ditto.
43	940	Sundarbans Bajeapti Mahal Sanmyasi.	Sanmyasi, J. L. No. 151, P. S. Rampal.	3,070-34	3,278 0 10	1860	1958-59	Ditto.
44	945	Sundarbans Bajeapti Mahal Chak Haragati.	Chak Haragati, J. L. No. 1, P. S. Morrellganj.	569-73	443 1 0	1863	1939-40	Ditto.
45	789	Sundarbans Bajeapti Mahal Patharghata.	Char Patharghata, J. L. No. 7, Paikgachha.	30-57	60 0 0	..	1925-26	Farming. Summary settlement.
46	792	Sundarbans Bajeapti Mahal Kalmibunia.	Kalmibunia, J. L. No. 70, P. S. Paikgachha.	210-45	246 0 0	1908	1937-38	Farming.
47	874	Sundarbans Bajeapti Mahal Phulhata, etc.	1. Baharbunia, J. L. No. 100, P. S. Morrellganj. 2. Uttar Phulhata, J. L. No. 101, P. S. Morrellganj. 3. Ghasiakhali, J. L. No. 102, P. S. Morrellganj. 4. Sanirjor, J. L. No. 903, P. S. Morrellganj. 5. Denatala, J. L. No. 104, P. S. Morrellganj. 6. Dakshin Phulhata, J. L. No. 106, P. S. Morrellganj.	11,732-32	25,577 0 0	1909	1938-39	Ditto.
48	1061	Mahal Island Char Kapotakshi.	Char Kapotakshi, J. L. No. 237, P. S. Paikgachha.	26-23	12 0 0	1924-25	1933-34	Ditto.
49	553	Mahal Baikari ..	Bid Dadbhanga, subdivision Basirhat district 24-Parganas.	11-00	7 0 0	..	..	Purchased by Government at a sale held under Act XI of 1859 on 22nd June 1938.
50	277	Mahal Khushkhal ..	Bid-Bidli, J. L. No. 162, P. S. Swarnnagar, district 24-Parganas.	4-44	7 11 9	..	..	Direct management from 1920-21. Summary settlement extended up to 1925-26.

APPENDIX X (d).

Temporarily-settled Private Estates of the Khulna Collectorate not taken up for Resettlement of Land Revenue.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Present revenue.	Period of settlement.		Nature of settlement.
						From	To	
1	2	3	4	5	6	7	8	9
					Rs. A. P.			
1	796	Sundarbans Abadkari Taluk Kanchiharania.	Kanchiharania, J. L. No. 108, P. S. Syamnagar.	514.87	138 0 0	1883-87	1934-35	Under rules of 1853.
2	817	Sundarbans Abadkari Taluk Jhuthara.	1. Jhuthara, J. L. No. 109, P. S. Moorrelganj. 2. Golsakhali, J. L. No. 110, P. S. Moorrelganj. 3. Paschim Chupa Barakhali, J. L. No. 111, P. S. Moorrelganj. 4. Guatala, J. L. No. 112, P. S. Moorrelganj. 5. Bashandal, J. L. No. 114, P. S. Moorrelganj.	11,916.74	3,936 12 0	1883-90	1947-48	Ditto.
3	818	Sundarbans Abadkari Taluk Khaulia, Barisal.	1. Amragachhia, J. L. No. 6, P. S. Sarankhola. 2. Dakshin Rajapur, J. L. No. 7, P. S. Sarankhola. 3. Khanda, J. L. No. 8, P. S. Sarankhola. 4. Raenda, J. L. No. 9, P. S. Sarankhola.	11,566.93	3,443 15 5	1907-08	1955-56	Ditto.
4	819	Sundarbans Abadkari Taluk Khaulia Barisal, Lot No. 4.	1. Dhansagar, J. L. No. 1, P. S. Sarankhola. 2. Rajapur, J. L. No. 2, P. S. Sarankhola. 3. Nalbungia, J. L. No. 3, P. S. Sarankhola. 4. Baniakhali, J. L. No. 4, P. S. Sarankhola. 5. Morellabad, J. L. No. 5, P. S. Sarankhola.	14,414.11	4,647 5 8	1898-09	1955-56	Ditto.
5	820	Sundarbans Abadkari Taluk Khaulia Barisal, Lot No. 6.	1. Sonatala, J. L. No. 10, P. S. Sarankhola. 2. Sarankhola, J. L. No. 11, P. S. Sarankhola.	7,633.05	2,474 10 3	1908-09	1955-56	Ditto.
6	823	Sundarbans Abadkari Taluk Chak Gadardanga.	1. Uttar Kantamari, J. L. No. 154, P. S. Paikgachhia. 2. Gadardanga, J. L. No. 158, P. S. Paikgachhia.	1,021.88	344 6 0	1891	1939-40	Ditto.
7	845	Sundarbans Abadkari Taluk Uttar Jhuthara and others.	1. Uttar Jhuthara, J. L. No. 107, P. S. Moorrelganj. 2. Dakshin Jhuthara, J. L. No. 108, P. S. Moorrelganj.	4,458.13	1,239 0 0	1883	1961-62	Ditto.
8	848	Sundarbans Abadkari Taluk Tantibunia.	1. Andharia, J. L. No. 158, P. S. Rampal. 2. Mithakhali, J. L. No. 159, P. S. Rampal. 3. Dattermet, J. L. No. 160, P. S. Rampal. 4. Baldyamari, J. L. No. 165, P. S. Rampal. 5. Banstala, J. L. No. 166, P. S. Rampal. 6. Khanna, J. L. No. 167, P. S. Rampal. 7. Damerkhanda, J. L. No. 168, P. S. Rampal. 8. Sahchermet, J. L. No. 169, P. S. Rampal. 9. Bajikarkhanda, J. L. No. 170, P. S. Rampal.	13,086.13	3,426 0 0	1891	1950-51	Ditto.
9	854	Sundarbans Abadkari Taluk Raja Baroda Kanta Roy, Lot No. 221.	1. Chak Batbungia, J. L. No. 8, P. S. Dacope. 2. Garkhali, J. L. No. 9, P. S. Dacope. 3. Chak Kaminiabad, J. L. No. 10, P. S. Dacope.	8,683.48	1,836 1 8	1856	1954-55	Ditto.
10	878	Sundarbans Abadkari Taluk Baharbungia.	Baharbungia, J. L. No. 100, P. S. Moorrelganj.	1,02.52	236 0 0	1893	1961-62	Ditto.
11	910	Sundarbans Abadkari Taluk Chak Munkla.	Hanumunkla, J. L. No. 163, P. S. Paikgachhia.	1,729.83	460 0 0	1891	1939-40	Ditto.
12	910	Sundarbans Abadkari Taluk Jhapa and others.	1. Jhapa, J. L. No. 118, P. S. Syamnagar. 2. Padmapukur, J. L. No. 119, P. S. Syamnagar. 3. Garkumarpur, J. L. No. 120, Syamnagar. 4. Satakhal, J. L. No. 121, P. S. Syamnagar.	8,785.31	2,250 0 0	1906	1929-30	Ditto.

APPENDIX IX (d)—concl'd.

Temporarily-settled Private Estates of the Khulna Collectorate not taken up for Resettlement of Land Revenue—concl'd.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of manzas in which the estate occurs.	Area in acres.	Present revenue.	Period of settlement.		Nature of settlement.
						From	To	
1	2	3	4	5	6	7	8	9
					Rs. A. P.			
13	920	Sundarbans Abadkari Taluk Khutkata.	Khutkata, J. L. No. 119, P. S. Syamnagar.	387-47	110 5 6	1884	1932-33	Under rules of 1873.
14	921	Sundarbans Abadkari Taluk Kathalbaria.	Kathalbaria, J. L. No. 109, P. S. Syamnagar.	481-80	140 7 3	1884	1932-33	Ditto.
15	922	Sundarbans Abadkari Taluk Kupat and others.	1. Kupat, J. L. No. 106, P. S. Syamnagar. 2. Porakatta, J. L. No. 115, P. S. Syamnagar. 3. Buri Goalini, J. L. No. 116, P. S. Syamnagar. 4. Talbaria, J. L. 117, P. S. Syamnagar.	9,320-60	2,668 0 0	1884	1952-53	Ditto.
16	923	Sundarbans Abadkari Taluk Kali Kinkar Chhittopadhyia Adhikari.	Gumantali, J. L. No. 111, P. S. Syamnagar.	370-36	107 0 0	1867	1932-33	Ditto.
17	924	Sundarbans Abadkari Taluk Jabakhali.	Jabakhali, J. L. No. 112, P. S. Syamnagar.	369-58	105 0 0	1892	1940-41	Ditto.
18	925	Sundarbans Abadkari Taluk Gobra and others.	1. Gabura, J. L. No. 122, P. S. Syamnagar. 2. Khalisabunia, J. L. No. 123, P. S. Syamnagar. 3. Dumuria, J. L. No. 124, P. S. Syamnagar. 4. Parsemari, J. L. No. 125, P. S. Syamnagar.	5,177-44	1,399 0 0	1854	1958-59	Ditto.
19	926	Sundarbans Abadkar Taluk Khalisabunia.	1. Khalisabunia, J. L. No. 23, P. S. Syamnagar. 2. Dumuria, J. L. No. 124, P. S. Syamnagar. 3. Parsemari, J. L. No. 125, P. S. Syamnagar.	3,728-87	890 10 0	1901	1959-60	Ditto.
20	927	Sundarbans Abadkari Taluk Kalinchi.	Kalinchi, J. L. No. 114, P. S. Syamnagar.	540-37	205 0 6	1884	1952-53	Ditto.
21	928	Sundarbans Abadkari Taluk Uttar Bedkasi.	Uttar Bedkasi, J. L. No. 235, P. S. Paikgachha.	4,913-35	1,465 0 0	1899	1957-58	Ditto.
22	929	Sundarbans Abadkari Taluk Dakshin Bedkasi.	Dakshin Bedkasi, J. L. No. 236, P. S. Paikgachha.	5,523-65	1,546 14 0	1899	1957-58	Ditto.
23	930	Sundarbans Abadkari Taluk Koyra Bedkasi.	Koyra, J. L. No. 234, P. S. Paikgachha.	5,571-40	1,593 12 0	1908	1956-57	Ditto.
24	947	Sundarbans Abadkari Taluk Haringhi-Pathan, Lot No. 219.	1. Sonakhali, J. L. No. 134, P. S. Paikgachha. 2. Digha, J. L. No. 135, P. S. Paikgachha. 3. Amurkata, J. L. No. 136, P. S. Paikgachha. 4. Dakshin Kammukhi, J. L. No. 137, P. S. Paikgachha. 5. Sonamukhi, J. L. No. 138, P. S. Paikgachha. 6. Paschim Kammukhi, J. L. No. 139, P. S. Paikgachha. 7. Soladana, J. L. No. 140, P. S. Paikgachha. 8. Harikhal, J. L. No. 141, P. S. Paikgachha. 9. Boyarjhapu, J. L. No. 181, P. S. Paikgachha. 10. Par Boyarjhapu, J. L. No. 182, P. S. Paikgachha. 11. Patan, J. L. No. 183, P. S. Paikgachha. 12. Charbanda, J. L. No. 184, P. S. Paikgachha. 13. Betunia, J. L. No. 185, P. S. Paikgachha.	7,057-89	2,993 3 3	1852	1951-52	Ditto.
25	810	Maliki Mahal Chak Kumaria Jola.	Chak Kumarjar Jola, J. L. No. 5, Morreliganj.	1,425-13	3,500 0 0	1908-09	1932-33	Proprietary settlement.
26	790	Maliki Mahal Char Islamkati.	Islamkati, J. L. No. 61, P. S. Tala.	8-28	23 3 3	1915-16	1929-30	Khas management.

APPENDIX IX (e).

List of Estates borne on the Revenue Roll of the Jessore District taken up in Jamabandi by the Khulna Settlement.

Serial No.	Estate No.	Name of Mahal.	Name of thana with J. L. No. of mauzas in which the estate occurs.	Area in acres.	Present revenue.	Period of settlement.		Nature of settlement.
						From	To	
1	2	3	4	5	6	7	8	9
					Rs. A. P.			
1	4272	Maliki Mahal Char Panchuria.	Char Panchuria, J. L. No. 118, P. S. Mahammadpur, district Jessore.	535.27	907 15 0	1911	1926	Temporarily-settled private estate under khas management on the rescuance of proprietors.
2	4307	Khas Mahal Char Chhatlani.	1. Char Chhatlani Paschimkhanda, J. L. No. 27, P. S. Mahammadpur. 2. Char Chhatlani, Purbakhanda, J. L. No. 88, P. S. Mahammadpur. 3. Elenkhali, J. L. No. 87, P. S. Mahammadpur, district Jessore. 4. Char Chhatlani, J. L. No. 123, P. S. Bhushna, district Faridpur.	333.72	690 0 0	1910	1925	Government estate under khas management.

APPENDIX IX (f).

List of Villages situated in the Bakarganj District but comprised in Khulna Estate and taken up during the present Operations.

Serial No.	Name of mauza with J. L. No. and thana.	Area in acres.	Tauzi No.
1	Baniari, J. L. No. 185, P. S. Nazirpur, district Bakarganj	488.22	978

INDEX.

[This Index has been prepared with a view to supplementing rather than duplicating the detailed Table of Contents. Its object is to facilitate reference to all such topics as cannot be easily located from the Table of Contents, e.g., specific reference has only been made to Pargana names occurring outside section 67; the Table of Contents is sufficient guide to Pargana names occurring in that section.]

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No. XXV/3—5785, dated Alipore,
the 20th July 1927.

From—A. K. JAMESON, ESQ., I.C.S.,
Director of Land Records,
Bengal,

To—The Secretary to the Government of
Bengal, Revenue Department.

I have the honour to submit herewith the Final Report of the Survey and Settlement Operations which have been in progress in Khulna district since 1920-21. Mr. L. R. Fawcus, I.C.S., was Settlement Officer from the beginning until he went on long leave in March 1926, and he has written the report. It omits certain stages such as Diara Resumption, Recovery of Costs, Printing and Case-work done after Final Publication which are still going on; these stages when they are concluded, together with an examination of the financial results of the operations, will form the subject of a short supplementary report. It was thought desirable that the main topics which have to be dealt with in a final report should be handled by Mr. Fawcus himself while he was still in touch with the work—a course which has already been adopted in other settlement operations.

2. The district of Khulna was formed in 1882 out of two subdivisions of Jessore district and one of the 24-Parganas. The total area dealt with in the operations is 2,472 square miles, but there is in addition 2,200 square miles of reserved forest which plays a most important part in the economy of the district and about which much information is given in the report. The district has been formed entirely out of the alluvium brought down by the Ganges, especially through the Jamuna and the Bhairab (offshoots of the Bhagirathi when that was the principal mouth of the Ganges), and the Madhumati or Baleswar, an offshoot of the Padma, which became the principal channel probably about the 16th century. Mr. Fawcus gives an interesting and lucid account of the processes of land formation in a delta and also gives reasons which appear to be convincing for holding that there has been considerable subsidence within the area which includes Khulna district; this has checked the extension of the land seawards;

indeed, it appears to have receded since Rennell's survey in the middle of the 18th century.

3. The district is divided into four zones extending east and west, each with its special characteristics. In the north there is a narrow strip of high land where deltaic action is complete, marked by congested village sites and patches of heavy jungle. South of this a series of great bils runs right across the district, forming part of a depression that extends throughout the district of the 24-Parganas on the one side and Faridpur on the other. South of this again is the reclaimed Sunderbans area consisting of vast treeless stretches of extremely fertile paddy land interspersed with low-lying patches of jungle and reed—pockets where the deposit of silt has not been sufficient to raise the land above flood level. Beyond this again is the broad belt of reserved forest extending to the Bay of Bengal, an area of the greatest interest especially to the physiographer, the botanist and the zoologist.

4. The river system of Khulna is of the utmost importance to its economic life, but a description of it is difficult on account of its complexity and the fact that the same river frequently bears several different names in different parts of its course. In paragraphs 12 to 17 Mr. Fawcus gives a detailed account of the positions and inter-relations of the main channels. The important fact which emerges from this is that the main effluents of the sweet water of the Ganges have within recent historical times moved steadily eastwards in keeping with the easterly trend of the Ganges itself. The result has been that now only the Madhumati-Baleswar, which forms the eastern boundary of the district, carries Ganges water throughout the year. The rest of the rivers have, for the most part, lost their connection with the Ganges altogether and have ceased to play their part in the building up of the land, being at best merely channels for surface drainage and at worst conduits by which the saline water from the Bay is carried far into the interior.

5. Perhaps the most important point in this chapter—and it is one which receives illustration again and again in other sections of the report—

is the description of the effect of attempting to forestall nature by building embankments in order that land may be cultivated before it has been really fitted for cultivation by the action of natural forces. The problem in Khulna is very similar to that with which I dealt in the Final Report of the Midnapore Settlement Operations, and I note with interest that Mr. Fawcus has come to the same conclusions as I did. The immediate effect of an embankment, whether designed to prevent a fresh water river from flooding low-lying land or to keep out saline water which at high tides penetrates far up the rivers of a delta, is to put a stop to the land building process and to cause all the solid matter carried in suspension in the water to be deposited in the restricted space between the embankments on either side of the channel. The latter, thereupon, has its bed raised, with the result that on the one hand it gets choked with silt and ceases to function as an active river, and on the other hand the saline water brought by the tides being unable to spread itself laterally is forced further and further into the interior. The ultimate result is that the embankments have to be continually raised and strengthened to keep pace with the rise in the bed of the rivers until the latter cease to be able to carry off the drainage of the interior which, therefore, becomes water-logged, and if the embankments are broken the saline water ruins the crops wherever it penetrates, and makes cultivation impossible for some years until the salt has been fully washed out of the soil.

6. This process is plainly visible in Khulna. It is instructive to read the account reproduced in paragraph 44 of the process of reclamation as described by an observer in the year 1873, when apparently embankments of 2 feet in height were sufficient where now to be of any use they have to be 8 or 10 feet. That it has not yet had such serious results as in Midnapore is due partly to the fact that reclamation was begun much more recently in Khulna than in Midnapore and there has not yet been time for it to produce its full effect, and partly to the timely intervention of Government which, by preserving the belt of reserved forest, has provided an ample, if not completely adequate, spill area for the rivers and has interposed a barrier which protects the cultivated land from the worst effect of

cyclones and tidal waves from the Bay. It is much to be regretted that a similar policy was not followed in the district of the 24-Parganas and, if the fate which is rapidly overtaking Midnapore is not to be repeated in that district, it is imperative that Government should rigorously prohibit any further encroachment on the already too scanty jungle areas between the Hooghly and the Haringhata.

7. In Chapter II the employment of the land is analysed. It is noted that 8 per cent. of the area for which statistics were prepared is water. Mr. Fawcus remarks that Government derives no revenue from this and says that a proposal to realise jalkar from the fisheries in the Sunderbans was rejected by the Board of Revenue recently. I was Secretary to the Board of Revenue at the time the proposal came up, and I remember that it was rejected solely on the ground of difficulty of collection—not on principle. I have discussed the question with Mr. Fawcus, and he has a scheme by which collection would be made quite simple. He should, I think, send it up, and I am sure the Board of Revenue would be quite willing to consider it.

8. Taking the land area alone 78 per cent. of it is cultivated and a further 14 per cent. is culturable, including in this category land out of cultivation owing to destruction of embankments. Thus, only 8 per cent. is permanently useless for cultivation, which is the lowest figure of any district in Bengal which has so far come under settlement operations. These figures are almost identical with those for Midnapore district, excluding the jungly western half. An analysis of the figures thana by thana, however, reveals considerable differences, the general effect of which is to support the contention advanced in Chapter I that embanking of rivers leads ultimately to fatal results. The percentage of cultivated to total culturable area is lowest in Satkhira subdivision, due mainly to the influence of the saline water forced far up the dying rivers by the embankments on either side of them.

9. The twice cropped area is very small, only 3 per cent. of the total, and in this respect again Khulna is comparable with Midnapore which shows only 1.5 per cent., whereas Bakarganj has 15 per cent. and Jessore 21 per cent. Of the total cropped area, rice occupies 89

per cent., which is the same as in Midnapore and is much larger than in any of the other districts. The explanation of these figures seems to be that reclaimed and prematurely embanked land is capable of bearing only one crop—paddy—probably because the very clayey soil of which it is composed, when deprived of an annual top dressing of fresh silt, bakes like brick as soon as the paddy is harvested, and is useless for any purpose until the next monsoon. If this is so, then the policy of embankments not only leads to ultimate disaster, but also restricts the yield of the soil from the very beginning. It is true that for some time the yield of paddy is magnificent—the report shows that 35 maunds per acre is a fair average for recently reclaimed Sunderbans land—but this does not last. The analogies which have been drawn above between Khulna and Midnapore are significant. The latter district in its eastern half must originally have been very like Khulna and its present condition is the result of the same policy as has been followed in Khulna; the main difference is that this policy has been in operation very much longer in Midnapore, so that it has had time to produce more unmistakeable results. I have not the slightest doubt, however, that ultimately Khulna will show exactly the same signs of exhaustion as Midnapore now shows and its abundant yield of paddy will gradually shrink to the 16 maunds or so an acre which is the average of Midnapore. There was clear evidence from the reports of previous settlement operations in the Contai subdivision of that district that there had been a steady deterioration in the yield.

10. The sections that follow deal with the processes of agriculture and describe the system of embanking which alone renders cultivation possible. A valuable account is also given of the fisheries and the forest produce. Mr. Fawcus is peculiarly well suited to write such a description, as he is well acquainted with both botany and zoology and has devoted much time to the study of the animal and plant life, especially of the Sunderbans. It is hoped that his researches may be of use to others in solving the economic problems of the district.

11. The report next deals with the statistics of population, and again the inter-relation of natural causes and their

results in the human sphere is clearly brought out. A comparison is made between the figures for the six principal Ganges deltaic districts, and it is shown that increase of population is proportionate to the activity of the rivers; where this has been restricted by natural or artificial means, population tends to fall off. The same inference can be drawn from a study of the figures for the different thanas within Khulna district; in the western thanas where the rivers are drying the increase since 1872 has been much smaller than in the eastern ones where the rivers are still active. The present density of population follows the same lines, and there is a rough agreement between this and the percentage of cultivated to culturable land; where the latter figure is high, the population is dense and *vice versa*.

12. The principal feature of interest in the figures of caste distribution is the large number of Namasudras and Pods who form 15.7 and 10.5 per cent. of the total. They were probably the original reclaimers of the soil, and it seems probable that the former entered along the line of the Bhairab and the latter along that of the Jamuna—the two main rivers in ancient times: 47 per cent. of the population are Muhammadans.

13. Khulna is to a greater extent even than the surrounding districts dependant on its agriculture. 84 per cent. of the population being directly connected with it as cultivators, receivers of rent or labourers, the figures for these three classes being 72 per cent., 5 per cent. and 7 per cent. respectively.

14. Mr. Fawcus has abandoned the practice usual in previous settlement reports of analysing the economic position of the cultivator. In my opinion he is wise in doing so; the methods which had been adopted were faulty, and I place little reliance on the accuracy of the results. Moreover, as shown in the report, there are certain local features peculiar to Khulna which would render any analysis on the old lines more than usually fallacious. But without going into details, he is able to assert from his personal knowledge and from such enquiries as were made, that the cultivator is probably better off and in a more secure economic position than in most of the other districts of Bengal. Mr. Fawcus is not so

much enamoured as some other Settlement Officers have been of the co-operative movement as a remedy for economic ills, and it is true that its success depends largely on the presence in each society of a man of sterling integrity and considerable force of character. His suggestions for improvement run on more materialistic lines such as hygiene, sanitation and prevention of malaria.

15. The fiscal history of Khulna is sharply divided into two—that of the area which was under cultivation at the time of the permanent settlement and that of the Sunderbans reclamations which came later. The latter has been postponed to a separate chapter in which all the problems of the Sunderbans have been treated together. The former is dealt with in Chapter IV. It does not present any features which mark it off particularly from that of most other Bengal districts. Nearly all the land then under cultivation was included in the estates of the Chanchra Raj which in 1731 had been divided into two, 12 annas constituting the Isafpur estate and the remaining 4 annas the Syedpur estate. The fate of these two was very different after the permanent settlement. The latter, being in the hands of an exceedingly capable woman, succeeded in weathering the storms of that distressful period and emerged intact and flourishing, to be transformed in 1806 into a trust estate still managed by the Collector of Khulna. The latter suffered the doom which overtook most of the estates on whom that inestimable boon descended, and after being split up into numerous fragments passed out of the hands of its former owners who were left in penury. The reason is that the permanent settlement regulation displays one of the most glaring instances of neglect to take account of the nature of the people for whom it was designed of which any Government has been guilty. If all Bengali zamindars had been of the calibre of the grand-daughter of the Ispahan merchant who owned the Syedpur estate, doubtless all would have been well. But being what they were, their ruin was inevitable and should have been foreseen by any Government not hopelessly befogged by doctrinaire ideas.

16. The existing system of land tenure in Khulna is fairly simple.

Mr. Fawcus divides the district into three parts—first, that which was under cultivation at the time of the permanent settlement; second, the more recent reclamations in the south-west; and third, those reclamations in the south-east. The grades of tenants in all three are the same; but in the first division tenures are probably the result of interpolation between the zamindars and pre-existing cultivating raiyats, whereas in the other two tenures were granted in the first instance by the zamindar for the purpose of reclamation and the tenure-holder inducted raiyats. In spite of the theoretically stronger position of the tenure-holder in the latter case, the cultivators all over have been able to secure all the privileges of the settled raiyat of the Tenancy Act. But as a matter of fact the classifications of that Act are not really appropriate to the conditions in the Sunderbans by reason of their limitation of the status of settled raiyat to one person only in the chain of subinfeudation, thereby forcing others—who in fact and according to the local custom are in precisely the same state—into the category either of tenure-holder or of under-raiyat. The details of the process may be studied in the report and will repay perusal. The practical solution of the difficulty which was adopted was to give every under-raiyat the customary right of occupancy which in fact he enjoys. But the exact connotation of that right is by no means certain, and it remains to be seen how the Civil Court will deal with it should it be challenged.

17. It is further to be noted that in the Sunderbans the raiyats, and with them the under-raiyats, have extensive privileges in the matter of digging tanks and of transferring their land on payment of an almost nominal *salami*. This was so also until comparatively recently even in the older settled areas, but now these rights are being gradually abrogated as a result of greater competition for land. It is probable that the Sunderbans of Khulna present conditions of tenure, rent and privilege which must have been universal in Bengal at one time and, if that is so, they afford some measure by which to judge the extent to which raiyats' privileges have been encroached upon by zamindars. It is to be hoped that the preparation of the record may do something to arrest the process of degradation.

18. The following table which I have prepared from the final reports of a number of districts is of interest:—

Percentage of land held in direct possession by—

	Proprietors.	Tenure-holders.	Raiyats.	Under-raiyats.
Khulna	2.6	14.0	70.5	12.9
Jessore	2.4	9.5	61.0	27.1
Faridpur	2.9	8.5	79.5	9.1
Bakarganj	5	41.5	51.0	7.0
Midnapore	8.7	27.9	60.3	3.1

The high percentage for proprietors and tenure-holders in Midnapore is due to the existence of large jungles held khas by the zamindar or the patnidar, but as amongst the other districts the differences are more nominal than real and, as mentioned above, they are due to the necessity of fitting conditions into the rigid classifications of the Tenancy Act. Thus, a very large proportion of the tenure-holders in Bakarganj are really cultivators and a very large proportion of the under-raiyats in Jessore have all the rights and privileges of raiyats.

19. The average rate of rent of settled raiyats in Khulna is Rs. 3-5-10 per acre. This is a good deal higher than that in Jessore, Rs. 2-7-5, or Faridpur, Rs. 2-10-6, but it compares favourably with the Rs. 4-8-10 of Bakarganj and Rs. 4 of the eastern half of Midnapore.

20. There is not much to be said about the actual operations. Survey in the Sunderbans mud is no pleasant task and bujharat in May in the treeless expanses of the reclaimed area is very trying. But apart from these physical disabilities the difficulties met with were by no means so great as in many other districts, nor was there any trouble with the people. The organisation was always excellent, and the Settlement Officer infused his own spirit of energy and keenness into all grades. The result was that performance was always ahead of programme and the operations were conducted from start to finish with the greatest smoothness.

21. In Chapter II of Part II Mr. Fawcus gathers together the facts

relating to the past history of the Sunderbans, Government policy therein and the action taken during the present operations. As pointed out by him, there have always been two aspects of the problem—how to deal with land surreptitiously reclaimed by owners of neighbouring estates and how to encourage open and legitimate reclamation. It was not until 1828 that Government finally decided to assert complete proprietary right in the Sunderbans, and by that time a great deal of land which was jungle at the time of the decennial settlement and, therefore, was not included in the limits of permanently-settled estates had been brought under cultivation. In 1829 a survey was made which accurately delimited the area still unreclaimed, but even after that date surreptitious cultivation went on. One of the chief duties of the Commissioner of the Sunderbans whose post had been created in 1816 was to resume these unauthorised accretions to permanently-settled estates and settle a revenue for them. The process went on spasmodically down to 1883 and in the course of time certain definite principles were evolved with regard to the status of the persons with whom settlement was made. These have been now crystallised in three forms of lease—the talukdari, the malguzari and the farming—in descending order of importance, the conditions of which have been dealt with at length in the report.

22. In the present operations during which a large number of these resumed estates came under re-settlement, a number of other important questions presented themselves for solution. These were concerned chiefly with the rate of rent of raiyats and valuation of the land in direct possession of lease-holders and subordinate tenure-holders, the distribution of the sanctioned percentage of profit among the different grades of tenure-holders, and the grant of embankment allowances. As regards rents, it was found possible to adopt uniform rates over considerable areas, but of course each estate was carefully scrutinised in detail and the rate was adopted only if it appeared to be fair. Following the precedent set in the Bakarganj settlement which is now embodied in the rules of the Settlement Manual, the allowed percentage of profit was divided among all grades of tenure-holders, although in many of the previous settlements of these estates each

grade had been allowed its own percentage on the assets of the grade below it. This aroused a certain amount of opposition, but the principle was upheld by me and by the Hon'ble Member in charge of the Revenue Department before whom a deputation of Khulna landlords appeared alleging hard treatment in respect of allowances. A concession was, however, made to them to this extent, that the percentage of profit—normally 20 per cent. for lessees in a Government estate—was increased whenever necessary, in order to secure that the actual amount of the profit in money should not be conspicuously less than what they had received at last settlement. Usually, of course, owing to enhancement of raiyats' rents it was much more; but in a few estates in which for one reason or another the percentages granted at last settlement were very high, the reduction to 20 per cent. would have resulted in loss. As regards allowances for upkeep of embankments which had been freely granted in previous settlements, it was found that in practically no estate was the allowance devoted to the purpose for which it was granted, and that the maintenance was done by the tenants at their own labour and expense under the supervision of the landlords' men. The allowances were, therefore, withdrawn, but at the same time clauses were inserted in the leases placing responsibility for maintenance of the embankments on the lessee and providing that on failure by the lessee the Collector could have the work done and recover the cost from him. There is no doubt that by custom the tenants are made to do the actual work, but they certainly would not do so unless supervised and in fact compelled to do it—the results of non-compulsion are lamentably evident in certain estates managed direct by Government—so that the practical responsibility rests with the lessee. A suit has, however, recently been filed in the Civil Court in which the lessee challenges the right of Government to insert this clause in his lease, and the question will no doubt be finally decided there.

23. The second branch of the Sunderbans administration has been concerned with encouragement of reclamation. Here the difficulty always has been to devise a form of lease which would be sufficiently favourable to attract capital and at the same time would secure a

reasonable revenue to Government. The attempts that have been made are many and various from the first lease by Tilman Henckell in 1783, through the revised forms of 1825 and 1830, to the ridiculously lenient terms of 1853 which gave away proprietary rights and caused great loss of revenue with no compensatory advantages. The offer in the rules of 1863 for redemption of revenue and outright purchase of land free of revenue was not accepted to any extent, and since the last set of rules for large and small capitalists in 1879 no further attempts have been made to induce reclamation in Khulna. For the creation in 1875 of the reserved forest area has stopped the work, so that the raiyatwari system of settlement which has been adopted since 1902 in Bakarganj and the 24 Parganas has no place in Khulna history.

24. The chapter concludes with a short account of the administration of the reserved forest area and of the history of the manufacture of salt in the district.

25. One point emerges clearly from Mr. Fawcus's account of Sunderbans administration and that is, that since the abolition of the office of Sunderbans Commissioner the local officials in Khulna have paid very little attention to that most important branch of their work, and very great ignorance and confusion exist in the Collectorate with regard to it. I strongly support the recommendations made in paragraph 179 of the report, and would urge that a special effort be made to overhaul the administrative machinery now that Mr. Fawcus has shown the way.

26. Khulna has proved to be one of the most interesting districts which have so far come under settlement operations in Bengal, because it is in many ways in a state of transition with regard alike to its physical aspect, to the conditions of its land tenure, and to the economic position of its cultivating classes. It exhibits clearly the stages by which an area where river action and land building are still in progress passes into a condition such as that of Jessore and Nadia where they have practically ceased, and it affords a valuable opportunity of studying the intimate relation between natural forces, especially as modified by artificial processes such as that of embankments, and human prosperity. And similarly in the economic sphere it exhibits the stages by which

the actual cultivators of the soil, having obtained valuable privileges when it was necessary to attract them for the work of reclamation, gradually have these privileges encroached on and whittled away under the influence of competition caused by increasing demand for land on their part. The value of Mr. Fawcus's report lies largely in the ability which he has shown in grasping the underlying principles which account for the transition and the clearness with which he has set them forth. He is to be congratulated on this no less than on the literary skill which is prominent throughout the report; it is full of felicitous phrases and has successfully escaped that aridity which is the standing reproach of official reports. It deserves, and I hope will obtain, careful study by all who are concerned with

physical and economic problems not only in Khulna but wherever conditions are at all similar.

27. Finally, I have great pleasure in associating myself with the words of commendation which he has bestowed on the staff who worked under him in general and, in particular, on those whose names he mentions in the last paragraph. I have been associated with the work in Khulna from its second year, and I can testify from my personal knowledge that the commendations have been thoroughly deserved. I trust that Government will take note of these names and see that these officers obtain the reward of their good work. I should add the name of Mr. Fawcus himself whose conduct of the operations has been most efficient.